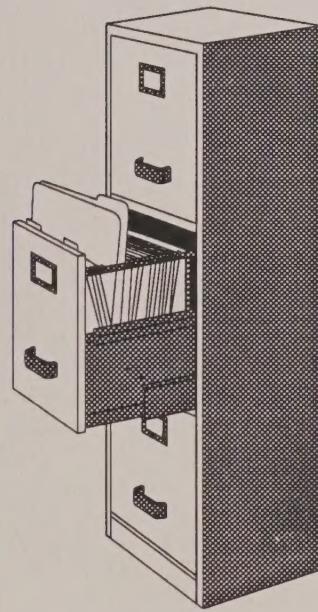
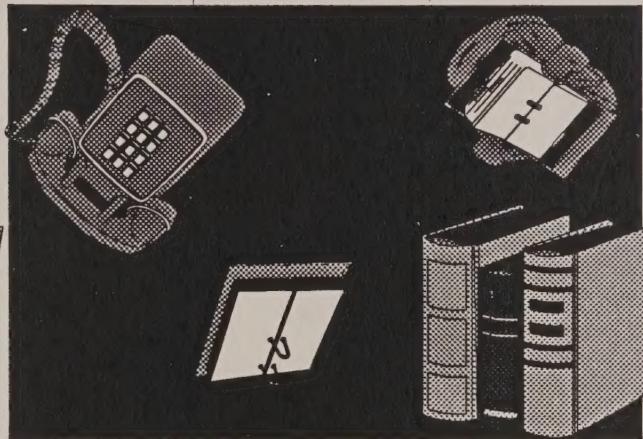
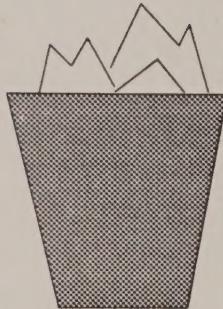
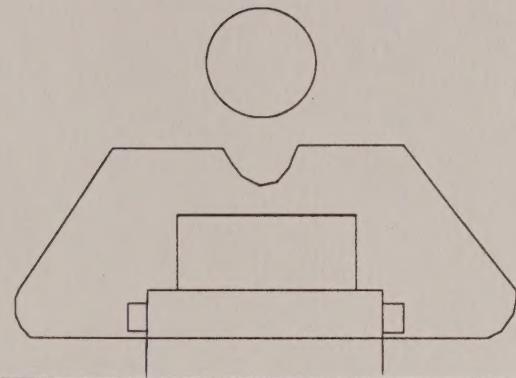


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

aSB762
.S56



SHORT SUBJECTS AND TIMELY TIPS FOR PESTICIDE USERS

1988

United States
Department of
Agriculture



NATIONAL
AGRICULTURAL
LIBRARY

Advancing Access to
Global Information for
Agriculture

SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS

TABLE OF CONTENTS

Topic	Page No.
EPA Sets New Policy on Pesticide Cancer Risks.....	1
R-6 Vegetation Management Record of Decision Signed.....	2
Locusts, Pesticides, and Politics.....	3
Chlorothalonil Registration Standard.....	3
Ozark/Ouachita Vegetation Management EIS.....	4
Appalachian Mountain Vegetation Management EIS.....	4
Project WIND.....	4
Correction.....	5
Wood Preservative Recycling.....	5
"Short Subjects..." 1988 Index.....	6-11
NEPA Document Update.....	12-17

EPA SETS NEW POLICY ON PESTICIDE CANCER RISKS

The U.S. Environmental Protection Agency (EPA) announced recently that it is adopting a controversial change in the way it regulates pesticides suspected of causing cancer. The new policy would permit the use of some weakly carcinogenic compounds that previously have been banned, but it could result in removal from the market of other products that have been in use for decades. The change, EPA believes, will lower the overall cancer risk from pesticides.

In adopting the new policy, EPA appears to be proposing a flexible interpretation of one of the most unbending provisions in the nation's food laws--the infamous Delaney Clause of the Food, Drug and Cosmetic Act, which prohibits the addition to processed foods of any compound that causes cancer in test animals. EPA now argues that the clause need not be invoked if the residues pose a "negligible" cancer risk.

John A. Moore, EPA's acting deputy administrator, argues that it is a "common sense" policy that will permit low-risk pesticides to replace more hazardous compounds. Not surprisingly, that viewpoint is not universally shared. For additional information

CONTACT: EPA; OFFICE OF PESTICIDE PROGRAMS (703) 557-7760

The Washington Office, Forest Pest Management, Pesticide-Use Management and Coordination Group writes and distributes this biweekly, informal newsletter as a means of providing current information to forestry pesticide users. Comments, questions, and items of input are welcome and may be sent to Dennis R. Hamel, Editor, USDA Forest Service, P.O. Box 96090 (204 RPD), Washington, DC, 20090. Reference to a commercial product or source in this newsletter does not constitute endorsement by the USDA Forest Service. Pesticides can be injurious to humans, domestic animals, desirable plants, and fish or wildlife if they are not handled or applied properly. Use all pesticides in accordance with label precautions.

R-6 VEGETATION MANAGEMENT RECORD OF DECISION SIGNED

The Regional Forester (RF) of the Pacific Northwest Region (R-6) signed a Record of Decision December 8 to proceed with implementation of projects outlined in the final environmental impact statement (FEIS) entitled "Managing Competing and Unwanted Vegetation." The 26-page Record of Decision is accompanied by a 32-page Executive Summary and 6 volumes of EIS including 12 appendices covering human health, environmental impacts, and public input.

The new FEIS replaces a 1981 vegetation management EIS for the Region and in making the decision, the RF said that he selected a program that guides the management of competing and unwanted vegetation. The program defines a common Regionwide approach. His decision includes specific requirements that apply to all vegetation management activities. His decision also establishes policy and direction for subsequent site specific environmental analyses.

Vegetation management activities covered by the FEIS include: site preparation, conifer release, fire management, range improvement, noxious weed control, wildlife habitat improvement, recreation and administrative facilities maintenance, roadside and corridor maintenance, and tree genetics program and research activities. Activities in National Forest nurseries are excluded, and are being considered in a separate EIS. Prescribed burning for the primary purpose of hazard reduction is also excluded.

Methods covered in the FEIS include the use of herbicides, prescribed burning, and manual, biological, and mechanical techniques.

Many of the activities are large programs and have a variety of actions and tasks. The current RF decision pertains only to the portion of each activity that deals with managing competing and unwanted vegetation.

Site-specific analyses for individual vegetation management projects will be guided by the FEIS. Each site-specific project will be planned using the process prescribed by the National Environmental Policy Act and tied to the FEIS, as well as to National Forest Land and Resource Management Plans.

The RF also said the FEIS analyzes new standards and guidelines for vegetation management. It also includes a human health risk assessment and a worst case analysis. It further considers the plaintiff's remaining claims for relief in the July 13, 1983 suit which led to the injunction on the use of herbicides on National Forests in the Pacific Northwest Region. For additional information

CONTACT: DAVE CARAHER (TEAM LDR.) FTS: 423-2727

"SHORT SUBJECTS....."INDEX

Enclosed with this issue is a listing of all major topics covered in "Short Subjects and Timely Tips for Pesticide Users" in 1988. Please keep the index with your newsletters since some of these topics are likely to surface again. If back issues are needed

CONTACT: DENNIS HAMEL FTS: 235-8209

LOCUSTS, PESTICIDES, AND POLITICS

In 1988, a terrible plague hit Africa--locusts. This following a time when the African continent was just beginning to recover from a catastrophic drought. There are few who question that a "war" against locusts can be won scientifically (if not politically) using today's technology (e.g., satellite tracking of locust swarms, pesticide spraying using combinations of DC-7 planes and smaller aircraft) and developing new technologies, such as electromagnetic pulse systems.

"Zapping" flying locust swarms with pulsed radar is neither a dream nor science fiction; it is a scientific capability that may prove useful for all kinds of pest control in the future. It works by combining the latest beam technology with helicopters equipped with low-cost electromagnetic radiation generators. The magnetrons on the helicopters emit specially tuned microwave pulses several times per second. In the process they can wipe out insect swarms.

Although still a biophysic research effort, it has been demonstrated that electromagnetic pulsed waves can be used to generate lethal acoustical shock waves thus reducing the use of conventional chemical "warfare" techniques. A stumbling block persists however, in that this technology may also have military applications and politics persist!

For further information refer to the July-August, 1988 issue of

21st Century Science and Technology
P.O. Box 65473
Washington, DC 20035
(703) 777-7473

CHLOROTHALONIL REGISTRATION STANDARD

The U.S. Environmental Protection Agency (EPA) recently issued a revised registration standard (RS) for the fungicide chlorothalonil. In its 1984 RS, the agency described the available data supporting the registration of this fungicide as having "no unreasonable adverse effect." But, EPA concluded that additional data was also needed. The agency subsequently requested, reviewed, and has evaluated the data and prepared a revised RS.

The new RS: Describes the fungicide and its use patterns (including forestry), sets out EPA's assessment of health risks and environmental characteristics, explains the EPA regulatory decisions, and specifies how manufacturers and formulators are to comply with the new RS.

To review the chlorothalonil standard, which will be applicable when developing nursery pesticide risk assessments

CONTACT: LARRY GROSS

(703) 235-8209

OZARK/OUACHITA MOUNTAIN VEGETATION MANAGEMENT EIS

In September 1986 the Regional Forester in the Southeast (R-8) advised the public of the Region's intent to prepare three vegetation management environmental impact statements (EIS). The last of the series, which will cover vegetation management on National Forests in Arkansas and Oklahoma, is under preparation. Scoping has been completed and a document is being written. It will be the basis for making decisions on: the range of vegetation management methods and techniques most appropriate to accomplish objectives, what standards, guidelines, and monitoring are needed, and linkages between the EIS and Forest Land and Resource Management Plans and site-specific environmental analyses.

Activities to be evaluated include: site preparation for reforestation of pines and hardwoods; stand management for timber stand improvement (release, and precommercial thinning); wildlife habitat improvement; right-of-way maintenance; fuels treatment, and range forage improvement.

Methods to be evaluated include: Manual, mechanical, prescribed fire, herbicides, and.

For additional information on the EIS and its preparation

CONTACT: VEGETATION MANAGEMENT EIS TEAM (404) 347-7076

APPALACHIAN MOUNTAIN VEGETATION MANAGEMENT EIS

The Southeastern Region (R-8) released for review a draft, 2-volume environmental impact statement (DEIS) entitled "Vegetation Management in the Appalachian Mountains." The DEIS analyzes 5 issues identified by interested publics relative to vegetation management in the Appalachian mountains. The DEIS also examines eight alternatives to managing vegetation in Kentucky, Tennessee, and Virginia and parts of Alabama, Georgia, North Carolina, South Carolina, and West Virginia.

Comments on the DEIS are due February 17, 1989 and should be sent to R-8

CONTACT: STEVE MCCORQUODALE (404) 347-7076

PROGRAM WIND TECHNOLOGY TRANSFER

The FS presented two papers at a meeting of the American Society of Agricultural Engineers and the National Association of Aerial Applicators. Bob Ekblad discussed CASPR, a computer-based cost/productivity model. This routine can be used by project planners, contracting officers, and aerial applicators to determine the most economical combination of spray aircraft. Jack Barry discussed results of a field test on the penetration of sprays. Statistical differences in spray deposits were observed among aircraft, drop size, and application volumes. Both projects were supported by Program WIND.

CONTACT: JACK BARRY (916) 758-4600

CORRECTION

In Issue No. 88-16 you were incorrectly advised that R-1 had used NoMate Shootgard (Scentry, formerly Albany International) Registration No. 36638-2), a hollow-fiber, controlled release pheromone that contains a 4:1 mix of Z:E-9-dodecanyl acetates and is registered for aerial application to disrupt mating of western pine shoot borer. This was in error. The product/formulation evaluated under an Experimental Use Permit in the study was a cheaper, manually applied Hercon Luretape. We are sorry for any inconveniences this misinformation may have caused.

CREOSOTE RECYCLING

Growing public concern that creosote-treated railroad ties could pose a health hazard has prompted some State and local governments to ban their burning or burying. Railroads are faced with the question of what to do with the 17 million worn-out ties they must replace each year.

One option is a new technology that makes the ties usable again. Using a patented process that grinds the discarded ties into small chips, blends the chips with a resin and molds the mixture into new ties. The life-expectancy of the new ties should double the 20-year average for conventional wood and solves, at least temporarily, the need to further dispose of creosote.

For additional information

CONTACT: MR. GENE HARMON
HARMON INDUSTRIES

CEDRITE TECHNOLOGIES, INC.
KANSAS CITY, KANSAS

ENDANGERED SPECIES UPDATE

The U. S. Environmental Protection Agency (EPA) and cooperating agencies are about to embark on redistribution of maps identifying endangered species and their habitats where certain pesticides will not be available for use in the future. The first set of maps will be sent to R-9, additional sets will be sent to all other Regions. Comments will be requested and a final report will be consolidated by the FS and other USDA agencies. For followup

CONTACT: SHELLY WITT (703) 235-8209

BIOTEC SYMPOSIUM

Showa University Research Institute will sponsor its first international symposium on biotechnology April 7-10, 1989 in St. Petersburg Beach, Florida. The symposium offers an opportunity for scientific exchange of information on bio-technology, especially among scientists from the two leading countries in this area of development, Japan and the United States. For registration information

CONTACT: SHOWA UNIVERSITY RESEARCH INSTITUTE (813) 576-6675

"SHORT SUBJECTS"....INDEX

KEYWORD OR SUBJECT AREA	ISSUE NO.
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	88-5
2,4,5-T	88-3,5
2,4-D	88-3,5
3PF	88-4
ACEPHATE	88-5,9
ACID RAIN	88-1
ADVANCED TECHNOLOGY IN NATURAL RESOURCE MANAGEMENT	88-5
AERIAL SPRAY	88-7,14
AG BIOTECH	88-16
AGDISP	88-1,2,10,11
AGENT ORANGE	88-5
AGRICULTURAL CHEMICALS AND THE ENVIRONMENT	88-8
AGRICULTURAL RESEARCH INSTITUTE	88-3
AMERICAN CHEMICAL SOCIETY	88-1
ANIMAL DAMAGE CONTROL	88-4,10
APPALACHIAN INTEGRATED PEST MANAGEMENT PROGRAM	88-11,12,15
ANTIAGGREGATION PHEROMONES	88-3,7
ARTIFICIAL INTELLIGENCE WORKSHOP	88-1
AZADIRACHTIN	88-3
BACILLUS THURINGIENSIS (BT)	88-1,4,5,7,14,16
BARK BEETLE SEMIOCHEMICALS	88-1,7,12
BARK TREATMENT	88-4,9
BEHAVIOR OF PESTICIDES IN THE FOREST ENVIRONMENT	88-1
BENEFITS ASSESSMENT REPORT	88-10
BIOLOGICAL PESTICIDES	88-4,7,9,11
BIOMARKERS	88-14
BIOTECHNOLOGY	88-1,2,11
BIOTECHNOLOGY INFORMATION CENTER	88-4
BIOTECHNOLOGY POLICY CENTER	88-3
BIOTECHNOLOGY SYMPOSIUM SLATED	88-4
BLM NOXIOUS WEED EIS	88-5
BLM VEGETATION MANAGEMENT EIS (CALIFORNIA)	88-12
BT BIOBURDEN	88-5
BUDWORM SPRAY PROJECT (R-6)	88-1,7,8,9,11
BUFFER ZONE REGULATIONS	88-3
BUFFER ZONES IN PROPOSITION 65 FOREST INSECT CONTROL	88-3
C-130 AIRCRAFT	88-7,13
CACODYLIC ACID	88-10
CALIBRATION PROGRAM	88-14
CALIFORNIA	88-4,7,9,12,16
CANADA/UNITED STATES MPB PROGRAM	88-5,9
CANADIAN HERBICIDE SPECIALISTS	88-6,13
CARBARYL	88-6,9,16
CHEVRON/SUMITOMO/VALENT U.S.A	88-11
CARCINOGENIC RISK	88-6,7
CATEGORY "D" PESTICIDE	88-5
CERTIFICATION AND TRAINING WORKSHOP	88-8
CHEMICAL INFORMATION SYSTEM	88-1
CHEMICAL RISK	88-1,7

CHITIN: AN SYNTHETIC NEMATICIDE	88-1	7
CHOLINESTERASE MONITORING	88-1	
CHLOROTHALONIL	88-17	
COCA ERADICATION	88-8	
COMMERCE BUSINESS DAILY	88-4	
COMPUTER-ASSISTED DECISIONMAKING AIDS	88-1,8	
COMPUTERIZED TOXICOLOGY/RISK ASSESSMENT PROGRAM	88-8	
COOPERATIVE AGREEMENTS	88-3,7,11,12,13	
COORDINATED RESEARCH ON ALTERNATIVE FORESTRY	88-4	
CUSTOM DATA SEARCH	88-11	
DALAPON	88-1	
DAMMINIX	88-12	
DE MINIMIS DOCTRINE	88-6	
DELANEY CLAUSE	88-6	
DERMATITIS	88-9	
DFTM LARVAE	88-4,7	
DICOFOL	88-6	
DIFLUBENZURON (DIMILIN)	88-3,5,7	
DIMILIN	88-3,5,7	
DISPOSABLE COVERALLS	88-3	
DOUGLAS-FIR TUSSOCK MOTH	88-4,7,9	
DWARF MISTLETOE CONTROL	88-15	
EASTERN SPRUCE BUDWORM COUNCIL	88-3	
EMERGENCY EDUCATION NETWORK (EENET)	88-4	
ENDANGERED SPECIES	88-1,2,10,15	
ENDANGERED SPECIES PROTECTION PLAN PROGRAM	88-4,5,8,12	
ENTOMOLOGICAL SOCIETY OF AMERICA	88-16	
ENVIRONMENTAL DOCUMENT WRITING	88-3	
ENVIRONMENTAL ECONOMICS RESEARCH	88-3	
ENVIRONMENTAL INFORMATION CENTER	88-8	
ENVIRONMENTAL RISK COMMUNICATION RESEARCH	88-3,8	
EPA	88-3,4,5,7,11, 15,16	
EPA'S ENDANGERED SPECIES PROTECTION PROGRAM	88-4,5,8,12	
EPA FACT SHEETS	88-9	
EPA POLICY ON CANCER RISK	88-17	
EXPERIMENTAL USE PERMITS	88-7	
EYEWASH BOTTLE	88-3	
EYEWASH BOTTLES CARRYING CASE	88-3	
FACT SHEETS	88-9	
FARMWORKER PROTECTION RULE	88-1,10	
FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)	88-4	
FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOL.	88-4	
FIELD EXPERIMENTS	88-7,14	
FIFRA	88-1,3,12,14,15	
FISH CONTROL	88-9	
FOOD, DRUG, AND COSMETIC ACT	88-6	
FOREST NURSERY ENVIRONMENTAL IMPACT STATEMENT	88-6,12	
FOREST PEST SUPPRESSION PROJECTS	88-8,9,11	
FOREST SONGBIRDS	88-16	
FOREST WORKERS	88-1,10	
FORMALDEHYDE	88-6	
FSCBG II	88-1,9	
FUNGICIDE ASSESSMENT TEAM	88-13	

GROUNDWATER	88-1, 4, 8, 14	8
GLASNOST/PESTICIDES	88-16	
GROUNDWATER CONTAMINATION BY PESTICIDES	88-4, 8, 10	
GROUNDWATER POLLUTION PREVENTION	88-4, 10	
GPCHEK	88-11, 12	
GYPSY MOTH CONTROL	88-5, 7, 9, 11, 12 13, 15	
 H.R. 2463	88-1, 12	
HAZARDOUS MATERIALS COMPLIANCE AND ENFORCEMENT COURSE	88-5	
HAZARDOUS MATERIALS VIDEOCOURSE TO BE OFFERED	88-4	
HAZARDOUS WASTE MANAGEMENT	88-1	
HEALTHY FORESTS, HEALTHY WORLD	88-10	
HERBICIDE RISK ASSESSMENT	88-10	
HERBICIDE SHORTCOURSE (PURDUE)	88-6	
HUMAN EXPOSURE TO PHENOXY HERBICIDES	88-3, 5	
IDAHO VEGETATION MANAGEMENT	88-14	
INERT INGREDIENTS	88-6	
INCIDENT/ACCIDENT INVESTIGATION GUIDE	88-9	
INSECT WORK CONFERENCE	88-1	
INTEGRATED PEST MANAGEMENT	88-1, 11, 12, 14, 16	
INTEGRATED RISK INFORMATION SYSTEM (IRIS)	88-7	
INTERMOUNTAIN VEGETATION MANAGEMENT EIS	88-8	
INTERNATIONAL SYMPOSIUM ON CHEMICAL MIXTURES	88-5	
IPM IN AGROFORESTRY	88-1	
KELTHANE	88-6	
LABORATORY CHEMICAL MANAGEMENT FOR WASTE REDUCTION	88-1	
LEACHING POTENTIAL	88-4	
LIFE-THREATENING BIRTH DEFECTS	88-1	
LOCUSTS, PESTICIDES, AND POLITICS	88-17	
LYME DISEASE	88-12, 13	
MALATHION	88-1	
MANAGING THE NEPA PROCESS	88-3	
MANAGING VEGETATION WITH CHEMICALS	88-5, 13, 14	
MARGOSAN-O	88-3	
MASK-IT	88-4	
MASS AERIAL SPRAY SYSTEM	88-7	
MATERIAL SAFETY DATA SHEETS	88-1, 11, 15	
MCH	88-3	
MICROBIAL PEST CONTROL AGENTS	88-1, 7, 11	
MITICIDE	88-6	
MONOGRAPH ON PHENOXY HERBICIDES	88-3	
MOUNTAIN PINE BEETLE	88-5, 7, 9	
MSMA	88-10	
MYRRH	88-13	
NORTHWEST COALITION FOR ALTERNATIVES TO PESTICIDES	88-7	
NAPIAP PROPOSALS	88-10	
NATIONAL ADVANCED PESTICIDE MANAGEMENT TRAINING COURSE	88-6	
NATIONAL AGRICULTURAL LIBRARY	88-4, 8	
NATIONAL CANCER INSTITUTE (NCI)	88-5	
NATIONAL HEALTH AND SAFETY AWARD	88-3	
NATIONAL INSTITUTE OF BUILDING SCIENCES WOOD PROTECTION	88-3	
NATIONAL NAPIAP MEETING	88-6	
NATIONAL PESTICIDE CERTIFICATION AND TRAINING WORKSHOP	88-8	
NATIONAL PESTICIDE INFORMATION RETRIEVAL SYSTEM (NPIRS)	88-1, 9, 11	

NATIONAL PESTICIDE STEERING COMMITTEES	88-14
NATIONAL PESTICIDES IN WELL WATER SURVEY	88-8
NATIONAL TECHNICAL INFORMATION SYSTEM (NTIS)	88-6
NATIONAL WILDLIFE FEDERATION	88-8
NATURAL PESTICIDES	88-3, 9
NATURAL RESOURCES FOR THE 21ST CENTURY	88-14
NEEM TREE	88-3
NEMATODES	88-3, 9
NEPA AND THE APPEAL PROCESS	88-3, 7
NEPA DOCUMENTATION	88-17
NEPA WORKSHOP	88-3
NEW BRUNSWICK	88-13
NOLO BAIT	88-3
NON-HODGKINS LYMPHOMA	88-5
NON-INDIGENOUS MICROBIAL PESTICIDES	88-6
NORTHEAST FOREST INSECT CONFERENCE	88-1
NOSEMA LOCUSTAE	88-3
NOXIOUS WEEDS	88-5, 14
NURSERY EIS	88-1, 12
OFFICE OF PESTICIDE PROGRAMS (EPA)	88-11, 13, 15
OCCUPATIONAL DERMATITIS	88-9
OSHA HAZARD COMMUNICATION STANDARD	88-1, 15
PERMANONE	88-12
PERSISTENCE OF DIFLUBENZURON (DIMILIN)	88-3
PEST MANAGEMENT POSITIONS	88-6, 11
PESTICIDE APPLICATION TECHNOLOGY MEETING	88-3, 14
PESTICIDE APPLICATION STEERING COMMITTEES	88-12, 14
PESTICIDE ASSESSMENT GUIDELINES	88-1, 6
PESTICIDE CALIBRATION PROGRAM	88-14
PESTICIDE DOCUMENT MANAGEMENT SYSTEM	88-13
PESTICIDE HAND CLEANER	88-8
PESTICIDE CERTIFICATION AND TRAINING	88-8
PESTICIDE LABELING VIDEOTAPE	88-8
PESTICIDE LABELING CONFERENCE	88-12
PESTICIDE ODORS	88-4
PESTICIDE PROGRAM IN THE SOUTH	88-4, 10
PESTICIDE PUBLIC POLICY FOUNDATION	88-4
PESTICIDE RESIDUE DETECTION	88-14
PESTICIDE TREATMENT AREA SIGNS	88-6
PESTICIDE-USE ADVISORY MEMORANDUMS	88-15
PESTICIDE USE INCIDENTS	88-9
PESTICIDE USER PRODUCTS	88-3
PESTICIDE VIDEOTAPE	88-1, 8
PESTICIDES AND POLITICS: THE LIFE CYCLE OF A PUBLIC ISSUE	88-3
PESTICIDES IN FOOD	88-16
PHENOXY HERBICIDES	88-3, 5
PHEROMONES	88-3, 7, 12
PHEROTECH, INC.	88-7
PICTOGRAMS	88-13
PILOT CONTROL	88-4, 7
PLASTIC PESTICIDE CONTAINERS	88-12
PR NOTICES	88-1
PREVENTIVE SPRAYS	88-9
PRODUCT HANDLING VS WASTE HANDLING	88-12

PROPOSITION 65	88-4	10
PUBLIC ATTITUDES TOWARD ANIMAL DAMAGE CONTROL	88-4	
RAY-GUN INSECTICIDE	88-1	
RCRA AND LABORATORIES	88-1	
REDUCING UNCERTAINTY IN ENVIRONMENTAL RISK ASSESSMENTS	88-4	
REENTRY	88-1, 10	
REGISTRATION STANDARD	88-5	
REGULATION OF PESTICIDES: SCIENCE, LAW, AND THE MEDIA	88-5	
REQUEST FOR PROPOSALS	88-4, 10	
RESIDUE DETECTION	88-14	
RESOURCE TECHNOLOGY 88	88-5	
RESTRICTED-USE PESTICIDES	88-15	
REVIEW OF PESTICIDE-USE MANAGEMENT AND COORDINATION	88-4, 6, 11, 15, 16	
RISK ASSESSMENT AND MANAGEMENT	88-4, 7, 8, 10, 14	
ROTELONONE	88-9	
S. 1516	88-1	
SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT	88-4	
SEEDBED ORCHARDS	88-1	
SEMIOCHEMICAL WORKSHOP	88-1, 2, 12	
SEVESO, ITALY	88-5	
SEVIMOL	88-16	
SHORT SUBJECTS INDEX	88-6, 7, 10	
SOCIETY OF AMERICAN FORESTERS	88-10	
SOCIETY OF ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY(SETAC)	88-4	
SOUTHERN REGION PESTICIDE REVIEW	88-4	
SPECIAL REVIEW OF 2,4-D	88-5	
SPRAY DEPOSIT ASSESSMENT	88-7	
SPRAY NOZZLE HANDBOOK	88-7	
SPRUCE BUDWORM (CANADA)	88-16	
STARCH-ENCAPSULATED PESTICIDES	88-3	
STATEMENT OF WORK	88-4	
STEERING COMMITTEES	88-14	
STRYCHNINE	88-5, 10, 13, 15	
SUBDIVISION M REGISTRATION GUIDELINES	88-1	
TCDD	88-5	
TEBUTHIURON	88-8	
TECHNOLOGY TRANSFER	88-11, 12, 13	
TELEMAIL	88-11	
THINLINE	88-4	
TM BIOCONTROL-1	88-4, 7	
TOXICOLOGICAL DATABASE	88-7	
TOX-RISK COMPUTER PROGRAM	88-8	
TOXICOLOGY AND RISK ASSESSMENT	88-14	
TRAINING OPPORTUNITY	88-6	
TREATMENT AND SYSTEMS	88-4	
TRICLOPYR	88-4	
VACANCIES	88-16	
VALENT U.S.A.	88-11	
VEGETATION MANAGEMENT ENVIRONMENTAL IMPACT STATEMENT	88-5, 8, 12, 14, 17	
VEGETATION MANAGEMENT FOR THE APPALACHIAN MOUNTAINS	88-5, 17	
VERBENONE	88-3, 7	
VERTEBRATE PEST CONFERENCE	88-4	
VERTEBRATE PEST COUNCIL	88-4, 10	
VIRUS PRODUCTION	88-7, 11	

WASTE HANDLING	88-12	11
WELL WATER SURVEY	88-8	
WESTERN BARK BEETLE SEMIOCHEMICALS	88-1, 12	
WESTERN PINE SHOOT BORER	88-16	
WESTERN SPRUCE BUDWORM	88-1, 4, 7, 8, 9, 11	
	15	
WILDLIFE DAMAGE	88-1	
WILDLIFE OPENINGS	88-13	
WOOD PROTECTION WORKSHOP	88-3, 11, 13	
WORKGROUP ON AGRICULTURAL CHEMICALS AND THE ENVIRONMENT	88-5	
WORLD FORESTRY CONGRESS	88-9	

NEPA DOCUMENTATION UPDATE

The WO-Forest Pest Management staff often gets questions on the status of various documents relating to pesticide use being completed with the National Environmental Policy Act (NEPA).

Enclosed is an up-to-date list of publications in press, recently released, in review, or planned for in the near future.

Questions about any of these NEPA documents may be directed to the issuing staff or

CONTACT: WO-FPM

(703) 235-8209

NOTE: THESE PAGES (18-Last) MUST BE SENT TO YOUR PRINTER USING THE 15L OPTION, OTHERWISE INFORMATION WILL BE LOST. EDITOR.

USDA FOREST SERVICEPESTICIDE-NEPA DOCUMENT/RISK ASSESSMENT SUMMARY

<u>FORESTRY APPLICATION-HERBICIDES</u>				DATE DRAFT DOCUMENT	DATE FINAL DOCUMENT	REMARKS
UNIT	PROGRAM OR PROJECT	GEOGRAPHICAL AREA	DOCUMENT	CHEMICAL(S)		
R-1	Noxious weeds	Montana/ Idaho/ N.D.	Risk assessment	8 Herbicides	5/87	Published as an FPM Each forest is incor assessment into the i
R-1	Noxious weeds	Montana/ Idaho North Dakota	10 EIS's 2 EA's	Herbicides		Each Forest produced document.
R-1	ROW Veg. Mgmt.	Idaho	EIS	Herbicides	1/89	Conducting scoping; of FEIS 1989.
R-1	Tree Imp.	Idaho/ Montana	3 EA's	Herbicides, Insecticide, and fungicides		Variable Forest level documen risk assessment tier nursery risk assessm
R-4	All competing and unwanted vegetation	Region 4	EIS + risk assessment	18 Herbicides	10/89	Conducting scoping; of FEIS 7/90.
R-4	Noxious weeds	Region 4	EIS + risk assessment	8 Herbicides	4/86	Record of Decision s The Chief approved a application of herbi
					6/86	

		described in this do
		Final EIS being prep completion of FEIS 1
		Pending completion c nursery document.
R-5	Reforestation (site prep. and release)	California EIS + risk assessment 12 Herbicides 4/86
R-5	Nurseries	California EIS + risk assessment All pesticides
R-6	All Competing vegetation	Oregon Washington EIS + risk assessment 16 Herbicides 10/87 12/88

R-6	Nurseries	Oregon Washington	EIS + risk assessment	All pesticides	1/89	
R-8	All competing vegetation	1. Coastal plain and Piedmont, Appalachian 2. Ozark	3 EIS's with risk assessment	1. Herbicides 3 Additives	1. 5/88 2. 12/88 3. 4/89	1/89 6/89 8/89
R-8	Seed orchards	Nationwide	Risk assessment	10 Insecticides 3 Herbicides	3/89	Background statement assessment being prepared for completion of FEIS 1
WO	All pests in nurseries	Nationwide	Risk assessment reference for nurseries	11 Herbicides 8 Fungicides 5 Insecticides 4 Fumigants	10/87	Risk assessments available
BLM	Noxious weeds	Montana, Wyoming, Idaho, Oregon, Washington	EIS	11 Herbicides	2/86	Court ruled document
BLM	Management of competing vegetation	Western Oregon	EIS + risk assessment	11 Herbicides	2/86	Final EIS is being prepared for completion of FEIS 1
BLM	California vegetation management	California	EIS + risk assessment	16 Herbicides	12/87	Final EIS distributed public.
BLM	Western vegetation management	Western States	EIS + risk assessment	Herbicides	3/89	Expect completion of
WDNR	Reforestation	All Washington DNR lands	SEPA and risk assessment	7 Herbicides	8/87	1/88
						Covers herbicide application in forested areas for preparation and reforestation

INSECTICIDES

R-1	Mountain pine beetle	Flathead N.F.	EIS	Carbaryl	4/87	6/87
R-1	Mountain pine beetle	Deer Lodge N.F.	EIS/RA	Carbaryl		Expect completion of
R-5	Douglas fir Tussock Moth	California	EA	BT, virus Dm11in		Expect completion EA
R-6	Douglas fir Tussock Moth	Oregon,	EA	DFTM virus	1988	
R-6	Western spruce budworm suppression	Oregon, Washington	EA	Bacillus thuringiensis	1/88	Produced in cooperat BLM, BIA, Oregon D.F.
R-6	Western spruce Budworm	Oregon Washington	EIS/RA	Biological & chemical	10/88	Draft EIS out for pu review; expect final
FS/ APHIS	Gypsy moth	Nationwide	EIS/RA	4 Insecticides	2/86	Judge Redden ruled t document adequate.

NA/R-8	Gypsy moth (APPALACHIAN INTEGRATED PEST MANAGEMENT)	Virginia + West Virginia	EIS/RA	10/88	1 Insecticides, B.T., virus, parasites, sex attractant, trapping, sterility	Draft EIS out for pu FEIS expected 3/89.
R-8	Southern pine beetle	Southwide	EIS w/risk assessment	5/86	2 Insecticides	2/87
APHIS	Grasshopper	Westwide	EIS	3/87	3 Insecticides plus 1 protozoan	2/86
<hr/>						
<u>OTHER</u>						
DEA	Cannabis eradication	Nationwide	EIS	3	Herbicides	Fed 7/85 nonFed 4/86
APHIS	Animal damage control	Nationwide	EIS w/o risk assessment	1979	ADC Chemicals	2 EIS's one for Fed one for non-Federal lands. FS EA's tier APHIS adopted 2/86 t FSW 1979 EIS when th was transferred from

HERBICIDES CONTAINED IN EIS'S AND/OR RISK ASSESSMENT

HERBICIDE	EIS OR RA	REGION 1 NOXIOUS WEED RA	REGION 4 NOXIOUS WEED EIS/RA	REGION 5 REFORESTATION EIS/RA	REGION 6 COMPETING VEGETATION	REGION 8 COASTAL PLAIN EIS/RA
Amitrole	X	X			X	
Asulam	X	X			XXX	
Atrazine						
Bromacil						
Cacodylic acid	X	X			XX	
2,4-D						
2,4-DP						
Dalapon	X	X			XXX	
Dicamba						
Diuron						
Fosamine Ammonium						
Glyphosate	X	X			XXX	
Hexazinone						
Imazapyr						
MSMA	X	X			XX	
Picloram						
Simazine						
Sulfometuron Methyl			X		XX	
Tebuthiuron						
Triclopyr				X	XX	

INSECTICIDES CONTAINED IN EIS'S WITH RISK ASSESSMENT

EIS INSECTICIDE	REGION 6 WESTERN SPRUCE BUDWORM	NA GYPSY MOTH	REGION 8 SOUTHERN PINE BEETLE	APHIS RANGELAND GRASSHOPPERS
Acephate	X	X		X
<u>Bacillus</u> <u>Thuringiensis</u>	X			
Carbaryl	X	X		X
Chlorpyrifos			X	
Disflubenzuron		X		
Lindane		X		
Malathion			X	
Methamidophos			X	
Trichlorfon		X		

MERRY CHRISTMAS AND HAPPY NEW YEAR!

SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS

Table of Contents

<u>Issue</u>	<u>Page No.</u>
National IPM Symposium Scheduled.....	1
Forest Pest Control and Forest Songbirds.....	2
CDFA to Require Additional Tests.....	2
Glasnost Extends to Pesticides.....	2
Pesticides in Food.....	3
GAO Issues EPA Transition Paper.....	3
Canadian Spruce Budworm Council Summary.....	4
Integrated Pest Management Training Videos.....	4
Entomological Society of America Meetings.....	5
AgBiotech.....	6
Western Pine Shoot Borer Control.....	6
R-6 Spray Projects.....	7
Sevimol Availability.....	7

NATIONAL IPM SYMPOSIUM SCHEDULED

The Extension Service's National IPM Coordinating Committee has announced plans to sponsor a National Symposium on integrated pest management (IPM). The symposium theme will be "Targeting Research for IPM Implementation." The session will be held April 25-28 at the Riviera Hotel in Las Vegas, Nevada.

The purpose of the session will be to provide an opportunity for scientists involved in research and implementation of IPM to meet to hear discussions of new technologies related to IPM, to discuss issues, to present data, and to meet with colleague on topics of mutual interest.

Plenary sessions at the symposium will include: IPM applications, integration of biotechnology into IPM, integration of biological control in IPM, managing pesticide resistance, and critical issues facing IPM.

Workshops will also be tailored to IPM by commodity, including forestry. For registration

CONTACT: DR. E. H. GLASS

(315) 787-2337

The Washington Office, Forest Pest Management, Pesticide-Use Management and Coordination Group writes and distributes this biweekly, informal newsletter as a means of providing current information to forestry pesticide users. Comments, questions, and items of input are welcome and may be sent to Dennis R. Hamel, Editor, USDA Forest Service, P.O. Box 96090 (204 RPD), Washington, D.C., 20090. Reference to a commercial product or source in this newsletter does not constitute endorsement by the USDA Forest Service. Pesticides can be injurious to humans, domestic animals, desirable plants, and fish or wildlife if they are not handled or applied properly. Use all pesticides in accordance with label precautions.

FOREST PEST CONTROL AND FOREST SONGBIRDS

The Canadian Forestry Service recently issued an information report (FPM-X-83) on "A Comparison of Spot, Transect, and Plot Methods for Measuring the Impact of Forest Pest Control Strategies on Forest Songbirds." Of the methods tested, the plot method appears preferable to others in determining the effects of forest spraying on forest songbirds.

For a copy of the report

CONTACT: FOREST PEST MANAGEMENT INSTITUTE
AGRICULTURE CANADA
SAULT STE. MARIE, ONTARIO

CANADIAN FORESTRY SERVICE
P.O. BOX 490
CANADA P6A 5M7

CDFAS TO REQUIRE ADDITIONAL TESTS

John Neisess (R-5) recently received word from the California Department of Agriculture (CDFA) that additional tests of Douglas-fir tussock moth virus (TM Biocontrol-1) would be required before it could be registered for use in California. Although EPA did not require the data for Federal registration, CDFA says they need acute oral, acute dermal, acute inhalation, primary eye, primary dermal, and acute intravenous and tissue culture studies). The USDA Forest Service as registrant will evaluate the opportunities to conduct these studies under the auspices of the National Agricultural Pesticide Impact Assessment Program (NAPIAP).

CDFA is requiring similar health effect studies on other Federally-registered pesticides such as: acephate, carbofuran, chlordane, chlorothalonil, chlorpyrifos, DDVP, malathion, and methyl bromide. Hopefully, other agencies involved in NAPIAP will be able to provide research to fill the data gaps for these pesticides.

For additional information

CONTACT: JOHN NEISESS (R-5)
ZDENDKA HORAKOVA (WO)

(415) 556-6520
(703) 235-8209

GLASNOST EXTENDS TO PESTICIDES

Russia's new policy of talking openly recently extended to the issue of pesticides when Fedor T. Margun, Chairman, USSR State Committee of Environmental Protection voiced a vehement anti-pesticide position of U.S. Environmental Protection Agency personnel. Comrade Margun told EPA officials that he believed that pesticides caused more problems than they were worth, they are radically overused, and they cause severe groundwater contamination problems in the Soviet Union. Margun also said his personal views did not always prevail in his country or in others.

PESTICIDES IN FOOD

The Food and Drug Administration (FDA) recently released a report on the amount of pesticides in food. Their report corroborates the findings of past years and shows the continuing safety of the food supply with respect to pesticides.

Pesticide residues in excess of tolerance limits were found in less than 1 percent of the 14,492 domestic and imported (79 countries) samples of food analyzed by FDA in the past year. Fresh vegetables accounted for the largest number (3,000) of foods sampled, of which no residues were found in 63 percent, less than 1 percent contained residues over tolerance, and about 2 percent contained residues for which tolerances have not been established.

The kinds of violative pesticides that occurred included: Malathion, DDT, diazinon, chlorpyrifos, lindane, chlordane, carbaryl, acephate, and permethrin.

As a result of this survey, FDA acknowledges that there is no compelling reason to believe that the U.S food supply is being adversely impacted by pesticides.

For additional information on the survey and/or its results

REFER TO: JOURNAL OF THE ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS
NOVEMBER/DECEMBER JOURNAL, 1988

GAO ISSUES EPA TRANSITION PAPER

The General Accounting Office (GAO) recently issued a report suggesting the need for extraordinary leadership within the agency during the transition to the new administration. Five primary concerns were also listed:

- o Increased attention on pesticide health and environmental assessments.
- o Increased management attention on the reregistration of 50,000 products.
- o Concentration on meeting reregistration deadlines, case-by-case.
- o Hire and train high-caliber staff.
- o Establish quality controls to ensure that industry-submitted studies are reliable, valid, and complete.

Unresolved challenges facing EPA according to GAO include:

- o Determining the synergistic effects of combining more than one active ingredient in a product.
- o Assessing the health and environmental effects of all "inerts."
- o Informing the public about the long term effects of pesticide use.

EPA, in a separate set of transition papers identified five "major" issues --implementation of the 1988 FIFRA amendments; farmworker protection rules; groundwater and endangered species; indemnities and disposal; and biotechnology. The agency also identified the following "minor" issues: future FIFRA amendments; FDA amendments, special reviews, pesticide disposal, the Delaney clause, minor and indoor pesticide use.

For additional information

CANADIAN SPRUCE BUDWORM COUNCIL SUMMARY

Mr. Dan Kucera recently attended the Spruce Budworm Council meeting in Ottawa, Canada. Items of interest at this year's meeting included:

--Canadians are concerned that there are so few pesticides (insecticides and herbicides) available for use in forest management.

--Products containing Bacillus thuringiensis (Bt) are about the only insecticides in use in Canada.

Since monitoring began several year ago, Canadians have found a 25 percent reduction in Bt product bioburden;

Ecogen's Bt product called **Condor** was tested in Canada in 1988 and provided good results;

In New Brunswick, Novo Bt products provided the best results in "88."

A new gypsy moth EIS is being written for Ontario. It will include a unique section on "The Sociology of Pesticide Usage."

Disparvirus, the Canadian equivalent of **Gypchek**, gave good results in Canada in 1988.

Diflubenzuron (**Dimilin**) has been shown to be effective in control of white pine weevil in Canada. Registration for use on adult weevils and their eggs (in spring) is underway.

The Canadian Forestry Service has changed its name to "Forestry Canada."

For additional details

CONTACT: DAN KUCERA

(304) 291-4133

INTEGRATED PEST MANAGEMENT TRAINING VIDEOS AVAILABLE

The National Park Service has worked with the Environmental Protection Agency to produce four training videos that will introduce the concepts of integrated pest management (IPM) and provide training to partially fulfill requirements for pesticide applicator certification. The videos were produced as part of the IPM program to minimize risks, reduce reliance on pesticides, and reduce costs while maximizing effectiveness of pest management activities. The tapes cover pesticide applicator safety, the detection of wood-inhabiting insects by structural inspection, subterranean termite biology, and crack and crevice treatment for cockroach management. The first tape covers safe handling of chemicals according to label instructions, stresses the use of protective clothing and equipment, discusses acute and chronic poisoning, and covers reading of labels and Material Safety Data Sheets. The tapes can be purchased for \$65 each from the National Park Foundation in Washington, D.C.

CONTACT: NATIONAL PARK FOUNDATION

P.O. BOX 57473

R-1 PESTICIDE REVIEW SUMMARY

An activity review of the Northern Region (R-1) was conducted November 14-18. The team leader was Max Ollieu, Assistant Director, WO-FPM, team members included Dennis Murphy, Silvicultural Practices, WO-FM, Diane Hildebrand, Plant Pathologist, R-2 TFFCFM, and Jack Thompson, Assistant Director, R-1-TCFPM. Ed Monnig, Pesticide Coordinator, accompanied the team to handle arrangements.

The purpose of the review as to examine the entire scope of pesticide-related activities in the Region. The review focused on twelve review areas. The draft report indicates the team commended the Region for work in seven areas: Review itinerary and logistics, Regional Office assistance and coordination, noxious weed control efforts, worker safety, biological control of noxious weeds, technical assistance of Bob Eder to the pesticide program, and guidelines for management of problem vegetation.

The team identified four pesticide-related issues which they believe warrant the Region's attention. These include: Pesticide storage and disposal, NEPA documentation for pesticide-use projects, research needs on pesticides, and approval of pesticide use at special-use sites. Situation statements, alternatives, and team recommendations are provided for in an Action Plan.

For additional information

CONTACT: MAX OLLIEU

(703) 235-8209

VACANCIES IN PACIFIC NORTHWEST AND NA

The Pacific Northwest Region (R-6) has announced its intent to fill a position entitled Integrated Pest Management Specialist. The selected person will be assigned to the Vegetation Management Unit. The incumbent will participate with the group leader for vegetation management in developing, administering, planning and controlling unit activities, by preparing detailed project or work plans and by reviewing and evaluating completed work through field reviews. The position has been advertised as an interdisciplinary, GS-12 position. The announcement number is R-6-727-89. The closing date is January 3, 1989.

The Northeastern Area has announced the availability of two pest management positions. Each position is for the field representative. One is for Durham, New Hampshire, the other is in Morgantown, West Virginia.

To apply

CONTACT: BARBARA O'DAY (R-6)
NA INFORMATION

(503) 294-5281
(215) 690-3111

FPM ATTENDS ENTOMOLOGICAL SOCIETY OF AMERICAN MEETING

The Entomological Society of America (ESA) held its annual meeting December 4-8 in Louisville, Kentucky. The Forest Service, Forest Pest Management staff participated as part of the ESA discussions of the U.S. Environmental Protection Agency (EPA) plan to protect endangered species. Other panelists included representatives from EPA, the Fish and Wildlife Service, the National Agricultural Chemical Association, the American Forestry Association, and various States. The session was fairly well received although it was evident that some publics were not being adequately kept up to date on the issue. Their comments reflected an understanding of issues that were over a year old and have already been addressed.

EPA also announced that they will be releasing a new notice in the **Federal Register** in January. The Notice will explain EPA's revised program--the chemical/species hybrid approach.

For followup

CONTACT: SHELLY WITT

(703) 235-8209

AG BIOTECH

An international conference/exposition sponsored by **Biotechnology Magazine** is planned for March 28-30, 1989 in Arlington, Virginia (Hyatt Regency Crystal City). This will be the 2nd all ag-biotech event in two years and promises to bring interested persons up to date on the latest developments in ag-biotech. Expected at the conference will be: Reports on new research, new biotech methodology, new product information, national experts, industry contacts, and international perspectives.

To register

CONTACT: AG-BIOTECH

1-800-243-3238 (EXT. 232)

WESTERN PINE SHOOT BORER CONTROL

The Timber, Cooperative Forestry, and Pest Management staff in R-1 recently released a report entitled "Control of the Western Pine Shoot Borer, Eucosma sonomana Kearfott, in Selected Ponderosa Pine Plantations in Northern Idaho and Western Montana." Authored by Jed Dewey, Ladd Livingston, Steve Kohler, and Charles Sartwell, the report (No. 88-13, Oct. 88) indicates that an EPA-registered synthetic pheromone (NoMate Shootguard) can be used to successfully disrupt mating of this pest in ponderosa pine plantations.

For additional information

CONTACT: JED DEWEY (R-1)

FTS 585-3280

R-6 USE OF BACILLUS THURINGIENSIS

The Pacific Northwest Region (R-6) has released a report (88-06) of western spruce budworm control projects using Bacillus thuringiensis (Bt). The report provides a historical background (1983-87) and leads up to the 1988 operational suppression project.

For further information

CONTACT: IRAL RAGENOVICH (503) 294-7448

SEVIMOL AVAILABILITY

Sevimol, a carbamate insecticide containing carbaryl will continue to be available for forest management purposes (e.g., bark beetle control) according to a Rhone-Poulenc Ag Company representative. To be marketed as Chipco Sevimol in 1989/90, the product will continue to include control recommendations for tree pests including those of syrup maples, shade trees, forests, and shelterbelts. The formulation is identical to previous formulations of Sevimol, which if available may still be used.

For further information

CONTACT: DENNIS HAMEL (703) 235-8209

END

SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS

November 10, 1988

TABLE OF CONTENTS

Topic	Page No.
EPA Proposing New Regulations for Restricted-Use Pesticides...	1
Endangered Species Act Amended.....	2
FIFRA Reauthorized.....	3
Pesticide-Use Advisory Memorandums.....	4
Material Safety Data Sheets.....	4
New Strychnine Labels.....	4
Two New EISs Released.....	5
Pesticides: Helpful or Harmful?.....	5
National Gypsy Moth Management Board.....	6
Plant Growth Regulator Registered for Dwarf Mistletoe.....	6
EPA Reorganization.....	6
Pesticide Activity Review in Region 4.....	7

EPA PROPOSING NEW REGULATIONS FOR RESTRICTED-USE PESTICIDES

The U.S. Environmental Protection Agency (EPA) is currently preparing for comment a new three-tier restricted-use pesticide system to ensure that only qualified people are applying these compounds.

Under the proposal, which is expected to be published for comment this spring, restricted-use pesticides would be divided into three levels. Level One compounds would be for use only by certified applicators and only for those uses covered by the applicator's certification. Level Two pesticides would be for use by or under the direct supervision of a certified applicator who is required to be on site and available (within 5 minutes) to the non-certified applicator.

Level Three products would be for use by or under the direct supervision of a certified applicator who must have the capability to be on site and with the non-certified applicator at the point of use "within a reasonable period of time." Under this least restrictive level, "the potential for serious consequences of a delay in arriving on site" would be taken into consideration when determining what is a reasonable period of time.

For additional information on the EPA plan

CONTACT: ARTY WILLIAMS (EPA/OPP)

(703) 557-7760

ENDANGERED SPECIES ACT AMENDED

The 100th Congress recently amended the Endangered Species Act (ESA). For example, the amendments now include the USDA as a cooperator with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of the Interior (USDI). Cooperative responsibilities outlined in Section 1010 (the Education, Study, and Report section) include:

Education

- o Conduct a program to inform and educate the public of any proposed pesticide labeling requirements that may be imposed by EPA in compliance with ESA
- o Provide a public comment period
- o Explain the restrictions on the applicator of any such pesticide
- o Identify the geographic areas affected by any pesticide restriction
- o Identify the effects of any restricted or prohibited pesticide on endangered or threatened species
- o Identify the species along with a general description of the geographic areas in which such species are located wherein the application of a pesticide will be restricted, prohibited, or its use otherwise limited, unless the Secretary of USDI determines that the disclosure of such information may create a substantial risk of harm to such species or its habitat

Study

- o Conduct a study to identify reasonable means available to implement the ESA pesticide labeling program. This study will include:
 - (a) An investigation of the best available methods to develop maps and the best available alternatives to mapping as means of identifying circumstances in which the use of a pesticide may be restricted,
 - (b) An identification of alternatives to prohibitions on pesticide use, including, alternative pesticides and application methods and other agricultural practices which can be used in lieu of any pesticides whose use may be restricted by the labeling program, and
 - (c) Cooperation by EPA with the USDA and USDI on a report to Congress that will present the results of the study discussed above.

For further information on the amendments to the ESA

CONTACT: SHELLY WITT

(703) 235-8209

FIFRA REAUTHORIZED

A bill reauthorizing the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) for three years was passed by the 100th Congress and signed by President Reagan on October 15, 1988. The bill is considered by most to be a watered-down version of overdue legislation overhauling the Nation's principal pesticide law. The bill is, however, acceptable to farmers, the chemical industry, and environmentalists.

Key provisions of the passed bill include:

- o Accelerates EPA review of pesticide active ingredients,
- o Requires manufacturer cost sharing for pesticide registration,
- o Eliminates EPA indemnification to manufacturers of banned pesticides,
- o Makes the EPA Scientific Advisory Panel permanent,
- o Increases criminal penalties for pesticide misuse,
- o Updates pesticide-related definitions, and
- o Designates pesticide storage facility inspection procedures.

Items discussed by reformers of the bill, but missing from the signed version, include:

- o An accelerated process for banning pesticides,
- o Groundwater protection measures,
- o Liability measures for pesticide-contaminated groundwater cleanup,
- o Regulations for pesticide exports,
- o Regulations for monitoring pesticide-treated food imports, and
- o Improved risk communication procedures.

The USDA Forest Service uses pesticides for National Forest System management under the authority of FIFRA; however, no significant changes in management practices are anticipated as a result of the newly authorized bill. Agency personnel will continue to have opportunities to:

- o Use pesticides in accordance with FIFRA and agency policy,
- o Report annual pesticide-use to Congress and the public,
- o Maintain the registrations of pesticides specific to forestry-use situations (e.g., viruses and pheromones).
- o Cooperate with EPA and other USDA agencies in Special Review of pesticides, and
- o Provide pesticide-related technical assistance to managers of forested Federal, State, and private lands.

For additional information on FIFRA

CONTACT: MAX OLLIEU

(703) 235-8209

PESTICIDE-USE ADVISORY MEMORANDUMS

Pesticide-Use Advisory Memorandums (PAMS) are issued on an irregular basis and provide up-to-date information to Forest Service field units on pesticide-use management situations. PAMS are prepared by the WO-FPM staff and since the series was initiated in April 1970, there have been 433 issuances.

It was recently suggested that the content of new issues be summarized in "Short Subjects...", therefore, to accommodate that request, we are hereby summarizing the next two issues.

MATERIAL SAFETY DATA SHEETS

The 434th PAM distributes Material Safety Data Sheets (MSDS) prepared by the USDA Forest Service for three FS-registered nucleopolyhedrosis viruses. Included are MSDSs for GYPCHEK (gypsy moth nucleopolyhedrosis virus), TM BIOCONTROL-1 (Douglas-fir tussock moth virus), and NEOCHEK-S (European pine sawfly virus). The MSDSs have been prepared in accordance with guidance provided by the Department of Labor, Occupational Safety and Health Administration, for hazard communication. The MSDSs are intended to ensure that hazards associated with the products are evaluated, and that information concerning their hazards is made available to potentially affected employees.

NEW STRYCHNINE LABELS

Pesticide-Use Advisory Memorandum No. 435 encloses two newly revised pesticide labels that allow the use of 0.5% strychnine-treated, steam-rolled oats and 0.35% strychnine-treated milo for pocket gopher control using burrow builders. The label for 0.5% strychnine is actually a sub-label of the master label (No. 56228-12) that previously covered both above- and below-ground use patterns. These labels were prepared by the Animal and Plant Health Inspection Service (APHIS), Animal Damage Control (ADC) section in accordance with a new EPA notice (PR 88-6) that allows pesticide manufacturers/distributors to develop new labels covering uses previously approved by EPA. The labels classify the products for restricted use and therefore they can only be used by certified applicators or persons under their direct supervision.

In addition, the products are not to be used in the geographic ranges of certain endangered animal species except under programs and procedures approved by EPA. Formal and informal biological evaluations and consultations by the Forest Service (FSM 2670) and subsequent jeopardy or non-jeopardy opinions by the Fish and Wildlife Service are consistent with this requirement.

These new labels allow continued use of strychnine in burrow builders by Forest Service and contract personnel; however, extra precautions are needed since it is a Federal law that these products only be used consistent with their labeling.

For questions on either of these two Pesticide-Use Advisory Memorandums

CONTACT: DENNIS HAMEL

(703) 235-8209

TWO NEW EISs RELEASED

At the end of October, the USDA Forest Service issued two new draft environmental impact statements (EISs). One is for the "Appalachian Integrated Pest Management (AIPM) Gypsy Moth Demonstration Project" and the other is for "Management of Western Spruce Budworm in Oregon and Washington.

Gypsy Moth. The AIPM EIS examines six alternatives for management of the gypsy moth (GM) on 12.8 million acres in Virginia and West Virginia. The AIPM project has three objectives. First, it seeks to slow the spread and reduce adverse effects of the GM. Second, the project is designed to develop and evaluate integrated pest management (IPM) approaches. Third, the project will develop and evaluate intervention tactics for the management of isolated GM infestations. The AIPM EIS differs from the final EIS entitled "Gypsy Moth Suppression and Eradication Projects--1985," in that it is for a demonstration project rather than normal suppression or eradication efforts. In addition, it includes intervention tactics for low-level GM populations; it is a 100 percent Federally funded project, and it allows for combination tactics.

Intervention tactics discussed in the EIS and that will be evaluated in the AIPM demonstration project include the use of: disparlure (a sex attractant), inherited sterility, mass trapping, nucleopolyhedrosis virus, Bacillus thuringiensis, diflubenzuron (Dimilin), and parasites and predators.

Comments on the Draft AIPM EIS are due December 12, 1988. For a copy or to make comment

CONTACT: DAVID P. SMITH (404) 347-4338
EIS TEAM LEADER FTS: 257-4338

Western Spruce Budworm (WSBW). The WSBW EIS examines four alternatives including use of chemical and biological pesticides available to manage this defoliator on 19 National Forests, Bureau of Land Management, Bureau of Indian Affairs, and State and private lands in the Pacific Northwest.

The EIS has been issued in draft in order to provide an opportunity for public review and comment. After analysis of all comments, a final EIS will be issued indicating the Region's preferred alternative. To request a copy of the DEIS or to provide input (due December 22, 1988)

CONTACT: ROGER M. OGDEN (503) 221-2727
PROJECT LEADER FTS: 423-2727

PESTICIDES: HELPFUL OR HARMFUL?

The American Council on Science and Health recently released a publication entitled "Pesticides: Helpful or Harmful?" To obtain a copy send \$3.00

CONTACT: ACSH 1995 BROADWAY, NEW YORK, N.Y. 10023

NATIONAL GYPSY MOTH MANAGEMENT BOARD TO MEET

The next National Gypsy Moth Management Board meeting will be held January 10-12, 1989 at the Hyatt Regency Hotel in Dearborn, Michigan. The purpose of the meeting will be to evaluate the 1988 gypsy moth suppression and eradication programs in the U.S. and Canada and plan for activities to be conducted in 1989. In addition to discussions of suppression and eradication efforts, a tentative agenda lists the following topics of discussion: Maryland IPM project, Appalachian Integrated Pest Management Demonstration Project, gypsy moth management in urban areas, Bt and diflubenzuron evaluations, optical bar photo review, advances in remote sensing, and the significance of focal areas in gypsy moth management.

If you would like to attend the National GM Management Board meeting

CONTACT: RONALD J. PRIEST (517) 373-1087

PLANT GROWTH REGULATOR REGISTERED FOR DWARF MISTLETOE CONTROL

Rhone-Poulenc Ag Company recently announced that they have been granted EPA approval for the use of Chipco Florel Pro Brand Plant Regulator as a dwarf mistletoe control agent. The product contains ethephon as its primary active ingredient. Research has shown that ethephon, when applied to dwarf mistletoes infecting lodgepole, ponderosa, and jack pines, black spruce, or Douglas-fir, causes the abscission of dwarf mistletoe shoots in infected trees, thus preventing spread of the disease to nearby healthy trees. Ethephon is also used to eliminate undesirable fruit from apple, carob, and olive trees. For conifers, the product is mixed with water and applied to point of runoff before mistletoe seed dispersal.

For a copy of this new plant growth regulator label and its accompanying information bulletin

CONTACT: DENNIS HAMEL FTS: 235-8209

EPA REORGANIZATION

In a continuing effort to streamline its operations, the U.S. Environmental Protection Agency (EPA) recently updated its pesticide certification and training program. Effective August 22, Certification and Training became a Branch under the Field Operations Division of the Office of Pesticide Programs. Ms. Susan Wayland is Acting Director; Steve Johnson is Acting Director designee. Their address is U.S. Environmental Protection Agency, Office of Pesticide Programs, Field Operations Division, Certification and Training Branch, Mailcode: TS-757C, 401 M Street, S.W., Washington, D.C. 20460

For additional information

CONTACT: CHUCK REESE (703) 557-7410

PESTICIDE ACTIVITY REVIEW COMPLETED IN REGION 4

An Activity Review of pesticide-use management and coordination in Region 4 was conducted October 24-31. The team leader was Max Ollieu, Assistant Director, FPM/WO, team members included Dick Fitzgerald, Assistant Director, Timber Management/WO, Jesus Cota, Pesticide Specialist, R-3, Gene Waldrip, Assistant Ranger, Ava Ranger District, Mark Twain NF, and Dave Holland, Group Leader, Forest Pest Management, R-4. Garth Baxter, Pesticide Coordinator, accompanied the team to handle arrangements during the field visits.

The purpose of the review was to examine the entire scope of pesticide-related activities in the Region. A list of twelve review areas was indicated in the original call letter from the Chief.

The team opened the review in the Regional Office in Ogden through discussions with Acting Regional Forester, Joe Guss, and met later with the vegetation management EIS team and Integrated Pest Management Work Group. The field phase of the review involved visits to the Boise, Sawtooth, Targhee, and Dixie National Forests, and the Lucky Peak Tree Nursery. Discussion were also held with personnel from the Utah Department of Agriculture, Utah State University, the Animal and Plant Health Inspection Service, and the Ogden Field Office of Forest Pest Management, on the recently discovered gypsy moth outbreak in Salt Lake City. A closeout with Deputy Regional Forester Tom Roederer was held Monday, October 31.

In a draft review report, the team commended the Region for work in eight areas: (1) Review itinerary and logistics, (2) NEPA documentation for herbicide use, (3) noxious weed control, (4) innovation in control of pocket gophers, (5) permittee involvement in the application of herbicides, (6) integrated pest management, (7) Research cooperation on the Sawtooth National Recreation Area, and (8) cooperative efforts against the gypsy moth infestation.

The team also identified six pesticide-related issues which they believe warrant the Region's attention. These include: (1) Pesticide storage and disposal, (2) NEPA documentation for pesticide-use projects, (3) NEPA documentation for pesticide-use projects at Lucky Peak Nursery, (4) noxious weed management, (5) vegetation management expertise, and (6) research needs. Situation statements, alternatives and team recommendations are provided for the issues to assist in development of an action plan.

Four observations were noted: (1) Semiochemical use, (2) roles and coordination in pesticide research, (3) pesticide newsletter, and (4) potential noxious weed infestations in the Sawtooth National Recreation Area.

For further information on the review

CONTACT: MAX OLLIEU

(703) 235-8209

FTS: 235-8209

END

SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS

October 14, 1988

TABLE OF CONTENTS

Topic	Page No.
FIFRA "Lite".....	1
Pesticide Residue Detection.....	2
Pesticide Transportation Videotape.....	2
Natural Resources for the 21st Century.....	3
Bt Bibliography.....	3
Integrated Pest Management/Groundwater.....	4
Pesticide Steering Committees.....	5
Vegetation Management in Northern Idaho.....	6
Strychnine.....	6
Biomarkers.....	7
Toxicology and Risk Assessment.....	8
Pesticide Calibration Program.....	8
Pesticide Formulation and Application Symposium.....	8

FIFRA "LITE" EXPECTED TO BE SIGNED SOON

The House and the Senate have passed and sent to President Reagan for signature a Federal Insecticide, Fungicide, and Rodenticide (FIFRA) amendments package, labeled by some as FIFRA "lite." The watered down version of legislation designed to overhaul the nations' pesticide law includes provisions for accelerated registration, reregistration fees, indemnities, and disposal.

The reauthorization in the reported "lite" bill is for 3 years. Other provisions of the bill include: making the FIFRA Scientific Advisory Panel permanent; increasing criminal penalties for registrants, applicants, or producers to \$50,000 or 1 year imprisonment, and to \$25,000 or 1 year imprisonment for commercial applicators (not farmers); changing Congressional review time for EPA FIFRA regulations to 60 calendar days, and some revised and new definitions.

The bill also adds authorities for EPA inspection of facilities where pesticides are stored.

In spite of the fact that FIFRA "lite" will probably be signed soon, nearly all participants who worked on the amendment agree that important changes are still needed with regard to groundwater protection, farmer protection and liability, risk communication, international trade, and food safety issues. However, these issues will probably not be tackled until the 1990's. For followup

BETTER WAYS TO DETECT PESTICIDE RESIDUES URGED

Over the past several years, public concern over possible health hazards from residues of pesticides in food has piqued Congressional interest. One result is a new report from Congress' Office of Technology Assessment (OTA) that describes current policies and methods for residue detection and gives options for improving public safety.

Federal regulation of pesticide residues is the responsibility of both the Environmental Protection Agency, which determines how much of a residue can be left on produce, and the Food & Drug Administration, which must sample the foods to see if residues are there. OTA says that although these agencies are serious about their efforts, the work is not high priority because of the thousands of analyses done yearly, only 1.5 percent of the domestic products had residues exceeding established limits.

About 750 pesticides, metabolites, and impurities must be tested, according to OTA. The most efficient way is to use a multiresidue method of analysis that can detect a number of different chemicals. Five principal methods can detect about 200 of the regulated chemicals. The rest are mostly analyzed by single residue methods. One way the system could be improved is to conduct more research on multiresidue methods to increase the speed at which residues can be screened.

OTA gives special attention to the emerging technology of analysis by immunoassay. One of the problems with current extraction and cleanup procedures is that it can take up to 2 days for some analyses, by which time the food product may have been sold. By developing specific antibodies that react to the pesticide, faster tests could be developed. OTA says that these would be best for water-soluble pesticides that might be difficult to analyze with standard gas chromatography/mass spectrometry methods. Most of the research in this area is being done in universities, and commercial uses of immunoassays are in clinical labs.

Although residues are not considered a significant problem, there is a potential for health hazards. OTA makes several recommendations for Federal agencies to improve their programs: expand levels of residue analysis R&D; increase coordination among the agencies involved; ensure that the analysis methods EPA requires of pesticide manufacturers are more useful for regulatory analyses; and maintain the quantity and quality of the analyst work force. For a copy of the OTA report

CONTACT: SUSAN SHEN

(202) 228-6526

SAFE PESTICIDE TRANSPORTATION

"Safe Pesticide Transportation" by farmers and applicators is the subject of a 15-minute videotape produced by USDA in cooperation with Southern States Cooperative, Richmond, VA. "Be Prepared--Just in Case" is available for \$9.00.

CONTACT: COMMONWEALTH FILMS

(800) 649-8611

804

NATURAL RESOURCES FOR THE 21ST CENTURY

A large number of natural resource agencies and organizations are co-sponsoring a national conference on "Natural Resources for the 21st Century." The conference, which is scheduled for November 14-18 in Washington, D.C., promises to provide a unique opportunity for physical and social scientists to present their perspectives on the challenges, opportunities, and choices for the future of natural resources in the United States.

Topics of particular interest to Forest Service personnel include:

"National Conservation Initiatives"

"Making Intelligent Resource Decisions in a Democratic Society"

"Status and Trends of America's Major Renewable Resources--Forest Lands, Range Lands, Wildlife, and Fisheries."

"Factors Affecting Resource Availability and Use"

"Challenges, Opportunities, and Choices in Natural Resource Management"

"Integrating Resource Understanding and Management"

"Land Practices and the Chesapeake Bay."

Pesticide-use decisionmaking will likely be covered in several of the sessions. For registration information

CONTACT: THE AMERICAN FORESTRY ASSOCIATION (202) 667-3300

BT BIBLIOGRAPHY AVAILABLE

The National Agricultural Library recently released a publication in their Quick Bibliography Series entitled, "Bacillus thuringiensis For Biocontrol --1979-June 1987." The bibliography has 378 citations, which are contained in the database AGRICOLA. To obtain a copy of the bibliography

CONTACT: THE NATIONAL AGRICULTURAL LABORATORY
PUBLIC SERVICES DIVISION
ROOM 111
BELTSVILLE, MD 20705

BOOST TO INTEGRATED PEST MANAGEMENT IN GROUNDWATER GUIDE

EPA and the Department of Agriculture have completed a 47-page, 63-slide educational guide for the avoidance of pesticide groundwater contamination. Although primarily for agricultural pesticide users, the guide boosts integrated pest management (IPM) in stating:

"... IPM is a recommended alternative to purely chemical pest control. IPM integrates available pest control techniques in a manner which is economically and ecologically sound. IPM uses scientifically sound strategies, such as economic thresholds and pest monitoring to determine the proper time for pesticide applications."

The guide also notes that pesticides which are injected or incorporated into soil "are most readily available for leaching," stating, "Most of the pesticides which have been detected in groundwater are ones which are incorporated into the soil rather than being sprayed onto growing crops."

Use of IPM was one of 18 preventive measures outlined in the guide. In addition to cautions for proper use, following labels, consulting with extension services and other "obvious" recommendations, the guide also suggests other measures to be considered. Included are:

-- "Evaluate the need, method and frequency of chemical control.... Pesticides that are applied in low concentrations and less frequently are less likely to leach into the groundwater.

-- "Identify the vulnerability of the soil. Well-drained or sandy soils low in organic matter have a high potential for groundwater contamination.

-- "Become familiar with pesticides that may leach.... For example, some carbamate pesticides are more likely to leach and cause groundwater contamination than other pesticides....

-- "Avoid spills and back-siphoning....

-- "Delay irrigation after pesticide use....

-- "Exercise care when practicing chemigation....

-- "Check the well system. Properly seal new wells and inspect old wells to ensure that the seal is adequate. This will help to keep contaminated surface water from entering the well and groundwater."

Prepared by the Cooperative Extension Services of Cornell University and the University of California at Davis, the guide is called: "Protecting Groundwater--A Guide for the Pesticide User." It includes an instructor manual. It is available for \$75.00.

PESTICIDE STEERING COMMITTEE MEETINGS HELD

In an effort to better coordinate Forest Service activities on field experiments and pilot projects involving pesticides, three steering committee meetings were held recently.

Eastern Defoliators: The first meeting was held in State College, Pennsylvania (Penn State), September 28 and 29. The primary purpose of this and the next meeting was to identify data needs, recommend pilot testing, and have Steering Committee members serve as an advisory panel to projects planning to use aerial applications of pesticides. For example, at the meeting in State College, participants discussed:

- Recently completed and planned field experiments and pilot projects.
- Role of the Steering Committee in the future and processes to be used.
- Technical and non-technical problems pertaining to aerial applications.

Western Defoliators: A second meeting was held in Sacramento, California, October 4 and 5, 1988. Committee members discussed the need for data gathering on pesticides needed for control of the western spruce budworm (WSBW), the Douglas-fir tussock moth (DFTM), and the gypsy moth. Specific attention focused on:

- Definitions related to field experiments and pilot projects.
- Technical problems associated with the use of Bt.
- Registration status of Bt, HD-1, and NRD-12 strains.
- Proper dosages of Bt and virus for WSBW and DFTM control.
- Use of lower Bt dosages.
- Pandora moth control alternatives.

The results of these two steering committees will be combined with those from similar meetings planned to discuss seed orchard pest management (November 15-16) and vegetation management (January 11-12). Jack Barry, Chairman of the committees is responsible for collating the results of all four committee meetings. For additional information

CONTACT: JACK BARRY

FTS 460-1715

Western Bark Beetles: A third meeting was held in Boise, Idaho, September 28-29. The purpose of this meeting was to explore opportunities for Forest Service personnel to work cooperatively on evaluating bark beetle population manipulation techniques using semiochemicals. It was agreed that highest priority should be given to strategies for spruce beetle, Douglas-fir beetle, and western pine beetle. A followup meeting is planned for October 17-21 in Las Vegas, Nevada. For information

CONTACT: DAVE HOLLAND

FTS 586-5257

VEGETATION MANAGEMENT IN NORTHERN IDAHO

According to the September 26 Federal Register (pp. 37324-37326), the USDA Forest Service (FS) intends to prepare two environmental impact statements (EIS) concerning weed management activities in northern Idaho on the Idaho Panhandle National Forests and in cooperation with the Idaho Department of Transportation in early 1989.

The Forest Service has conducted environmental analyses to cover both situations and has determined that EIS's are necessary to discuss the full range of issues, opportunities, and alternatives related to the control of competing vegetation and noxious weeds. Noxious and other weeds of concern on the Forests and along public right-of-ways in Idaho include spotted, Russian, and diffuse knapweed, rush skeletonweed, Dalmatian toadflax, St. John's-wort, leafy spurge, Scotch and Canadian thistle, and tansy ragwort.

Alternatives that will be considered for management of vegetation in northern Idaho will include "no action," and cultural, biological, and chemical (herbicide) treatments. An integrated pest management (IPM) approach will be favored and public input is sought. For additional information

CONTACT: RALPH WHEELER

(208) 765-7223

CERTAIN STRYCHNINE USES STYMIED

As reported in previous issues of "Short Subjects and Timely Tips for Pesticide Users" (see Nos. 88-5, 10, and 13), on April 11, the U.S. District Court for the District of Minnesota issued an order enjoining the U.S. Environmental Protection Agency (EPA) from continuing the registrations of certain above-ground uses of strychnine. EPA has complied by providing "Notice of Temporary Cancellation" in the October 5 Federal Register (Vol. 53, No. 193, pp. 39132-29133). In the announcement, EPA orders that all registrations of strychnine pesticide products registered for any above-ground use are temporarily cancelled. Strychnine products subject to the Notice may not be distributed, sold, or used. Persons failing to follow the District Court and EPA orders are subject to contempt. For followup

CONTACT: ROBERT PERLIS (EPA)

(202) 382-7505

CORRECTION

In the discussion of "wildlife openings" in Issue No. 88-13 we may have misled some readers by implying that hexazinone is not registered for use in forest sites. Pronone 10G is registered for forest sites and can be used to establish and maintain "wildlife openings."

BIOMARKERS: NEW TOOLS FOR STUDYING ENVIRONMENTAL EXPOSURES

7

It is fairly well known that a variety of pesticides contaminate drinking water supplies across the United States. Finding out how much people are really exposed to, however, is far from easy. Estimating how much someone absorbs through all routes is difficult: A subject's age, sex, degree of body fat, activity, prior exposure, nutrition, health, and other factors all influence the uptake of chemicals in the body. Ignorance of the precise nature of individual exposures has, in fact, long stymied attempts to link environmental exposures to disease, whether cancer, birth defects, or nervous and immune system disorders.

Today, new laboratory methods allow greater resolution of exposure-disease relationships. These methods allow molecular epidemiologists to measure changes at the biochemical, cellular, or molecular level in body fluids, tissues, or cells. Biomarkers, as these changes are called, allow investigators to ascertain both the actual dose someone has received and its early preclinical biological effect. Although many biomarkers are still in the testing stage, they should eventually be very useful in preventing disease. Such markers should also improve risk assessment and increase the power of epidemiology to forge causal chains between exposures and disease.

Biomarkers reflect events that take place on a continuum between external exposure and clinical disease. They may be direct measures of these events or surrogates; they may act as specific indicators of a particular chemical, or as generic indicators. Of all types of biomarkers, markers of internal dose have been used most widely in human studies. These markers provide a direct measure of a toxic chemical or its metabolites in cells, tissues, or body fluids. Examples include exhaled volatile organic chemicals, blood levels of pesticides, fat concentrations of TCDD, and aflatoxin metabolites in urine. Because toxic chemicals are often excreted in the urine, urine's mutagenicity, evidenced by its ability to induce mutations in bacteria, can also act as a measure of someone's internal dose of toxic chemicals.

Markers of biologically effective dose give a specific fingerprint of how much toxicant has interacted with critical cellular targets, such as DNA, RNA, or protein. Because the resulting chemical complexes between a toxicant and DNA, RNA, or protein, if unrepaired, may lead to gene mutation and eventually cancer, this type of dose measurement is useful for monitoring genotoxic chemicals.

Further along the continuum is early biological effect, a change in target cell or tissue structure or function that results from a biologically effective dose and is correlated with the development of the disease.

Although they're still a relatively new research tool, biomarkers hold real promise for use in the future. They offer hope for providing early warning of hazards from environmental exposures, identifying individuals who are at risk, and refining risk assessment. For followup

TOXICOLOGY AND RISK ASSESSMENT

A revised edition (July 1988) of a publication entitled "Elements of Toxicology and Chemical Risk Assessment" has been released by **Environ Corporation**. **Environ** is a scientific and regulatory affairs firm that provides consulting services. Their latest publication covers topics like risk definition, elements of toxicology, elements of risk assessment (hazard, dose-response, exposure, and risk characterization), and risk management.

Although these same topics will be discussed in a forthcoming Forest Service Handbook (FSH 2109.11), persons currently involved with risk assessment documentation may wish to order a copy of the \$40.00 publication.

CONTACT: ENVIRON CORPORATION
1000 POTOMAC ST., NW
WASHINGTON, D.C. 20007

PESTICIDE CALIBRATION PROGRAM FOR HAND-HELD CALCULATORS

A software program written for a hand-held Hewlett-Packard HP-41 calculator that aids in mixing and sprayer calibration has recently been developed at the University of Arkansas, Department of Entomology. Advantages offered by the calculator system over similar personal computer programs include reduced cost, field portability, and the ability to input spraying parameters in a combination of English and metric units. The calculator program is also less rigid in input requirement and allows changes in individual sprayer parameters without reentry of unchanged parameters that personal computer programs require. For a copy of the publication describing the program

CONTACT: PAUL MCLEOD (501) 575-3397

PESTICIDE FORMULATION AND APPLICATION SYMPOSIUM PLANNED

The American Society of Testing Materials (ASTM) is sponsoring its Ninth Symposium on Pesticide Formulations and Application Systems, November 9-10, 1988 in Atlanta, Georgia.

Participants at the symposium will present information on the technical aspects of pesticide application and formulation research, including equipment characteristics, and concepts contributing to the effective and responsible use of pesticides. Twenty-eight papers and two special presentations will follow the keynote address on "International Agriculture: Today and Tomorrow." Other titles of interest include: Proposition 65--Today and the Future, Pesticide Contamination of Groundwater, On-Site Pesticide Waste Disposal, Aerial Application of Postemergence Herbicides, Use of Kraft Lignin as a Pesticide Carrier, Spray Systems, and Granular Pesticides. For followup

CONTACT: JAMES L. HAZEN (BASF) (919) 248-6555
ANNE MCKLINDON (215) 299-5490

END

**SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS**

September 23, 1988

TABLE OF CONTENTS

Topic	Page No.
Wildlife Openings.....	1
Pesticide Document Management System Now On-Line with NPIRS.....	2
Pictograms for Agrochemical Labels.....	2
Strychnine Temporary Cancellation.....	3
Wood Protection Workshop.....	4
Gypsy Moth Nucleopolyhedrosis Virus.....	4
New Herbicides for New Brunswick.....	5
The Gift of Myrrh.....	5
C-130 Aircraft.....	6
Fungicide Assessment Team.....	6

"WILDLIFE OPENINGS"

In a recent effort to clarify EPA's position on the use of pesticides to manage wildlife habitat, the Minnesota Department of Agriculture was informed by EPA's Region 5 environmental protection specialist that EPA does not have a definition of "wildlife openings" in their pesticide labeling vocabulary.

Questions about the potential use of hexazinone (Pronone) and tebuthiuron (Spike) for wildlife habitat management were directed to the EPA Division of Pesticide Registration and the response was:

"if product labeling is silent regarding 'wildlife opening' use, and the labeling allows for application to forest sites listed on the label, the user may apply this product to establish or maintain 'wildlife openings.'"

However, the two labels submitted with the inquiry did not have forestry use language, therefore, EPA concluded that they would be inappropriate for use in "wildlife openings." EPA further opined that pesticides labeled for "other noncropland areas for the control of woody plant species" does not include forestry. These interpretations are based on 40 CFR 158; however, you are encouraged to consider these responses and if they concern you,

CONTACT: LARRY GROSS
HERBICIDE SPECIALIST

(703) 235-8209
FTS: 235-8209

NPIRS VERSION OF EPA'S PESTICIDE DOCUMENT MANAGEMENT SYSTEM NOW ON-LINE

The National Pesticide Information Retrieval System (NPIRS) recently installed a new version of EPA's Pesticide Document Management System (PDMS). PDMS is a central collection of information containing over 140,000 studies--most of which have been submitted to EPA in support of pesticide registrations.

Although PDMS was designed primarily to assist EPA Office of Pesticide Program scientists and regulatory officials in reaching pesticide regulatory decisions, the database is also expected to be used extensively by NPIRS users, including pesticide registrants, consultants, State and Federal regulatory officials outside of EPA, and others seeking information related to health and safety.

Results and conclusions of studies are not contained in PDMS. However, document information includes: a complete bibliographic citation; submission information, including submitter or source information, date of submission or acquisition, identification of the relevant regulatory matter, and OPP Accession Number; indexing by chemical subject(s); indexing by scientific discipline and specific subject matter; identification of the laboratory (if any) which did the work; and "keyline" information--conventional bibliographic and physical descriptors of the document.

To access PDMS information, use the NPIRS Initial Menu, or request a custom data search (See "Short Subjects..." Issue No. 88-11), or

CONTACT: DENNIS R. HAMEL

(703) 235-8209

PICTOGRAMS URGED FOR AGROCHEMICAL LABELS

The potential use of pictograms to highlight warnings and advice on agrochemical labels, has been recognized for some time. In particular, the Food and Agriculture Organization (FAO) has frequently supported the use of pictograms. Now FAO and the Association of International Agrochemical Associations (GIFAP) has developed and tested a series of pictograms designed to increase pesticide handling and application safety. They recommend that all governments act promptly to require industry to include these visual messages on agrochemical container labels.

The graphically definitive symbols are designed to convey--without resorting to words--the basic "do's and don'ts" for safe, appropriate pesticide application, handling, and storage. The pictograms are intended to complement existing text and should be especially helpful in countries where literacy is a problem.

The 12-pictogram set is divided into categories for storage, handling, use, advice, and warning. Two pictograms concerning "storing pesticides in a locked, childproof area," and "wash after using pesticides," are intended for use on every pesticide label. The other 10 are for selective use. A brochure describing the GIFAP-FAO pictograms is available free of charge

CONTACT: FOOD AND AGRICULTURE
ORGANIZATION (FAO)

VIA DELLE TERME DI CARACALLA
00100 ROME, ITALY

EPA TO TEMPORARILY CANCEL STRYCHNINE ABOVE-GROUND USE

EPA intends to temporarily cancel the above-ground use of strychnine. This is in response to an order of the U.S. District Court for the District of Minnesota following denial of the government's motion for stay pending appeal by the U.S. Court of Appeals for the Eighth Circuit (See "Short Subjects..." Issue Nos. 5 and 10).

The temporary cancellation is not under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, but the court's order. It is expected that EPA will soon publish a **Federal Register** notice carrying out the temporary cancellation effective on the date of publication.

The draft **Federal Register** notice states,

"EPA hereby orders that all registrations of strychnine pesticide products registered for any above-ground use are temporarily cancelled. This temporary cancellation is effective immediately and will remain in effect until further action is taken by EPA. Because this notice is being published solely under authority of, and to comply with, the district court's order, and is not an independent regulatory action under FIFRA, this notice does not give rise to any administrative hearing rights under FIFRA." The notice continued:

"Any person who has or comes into possession of any strychnine product subject to this notice, including registrants, distributors, and users, are bound by the district court's order pursuant to Rule 65(d) of the Federal Rules of Civil Procedure. Such persons may be subject to contempt of court proceedings if they do not comply with the terms of this notice."

EPA's notice of proposed action to implement the court order stated that "under Rule 65(d), registrants, distributors, and users of strychnine for above-ground use could be viewed as 'parties in active concert' with EPA upon issuance of the notice and may be subject to contempt of court proceedings if they do not comply with the terms of the order.... Federal defendants are not aware of any other available enforcement authority, but believe that the sanctions available under rule 65(d) should be effective."

The notice of proposed action explained why EPA felt that it could not implement and enforce the court's order under FIFRA, the Endangered Species Act (ESA), the Migratory Bird Treaty Act (MBTA), or the Bald and Golden Eagle Protection Act (BGEPA).

The proposed action went on to say that,

4

"Federal defendants believe that the proposed temporary cancellation order, which was not issued under the authority of FIFRA, would not allow the agency to bring an enforcement action under that statute because the procedures and criteria of FIFRA have not been met in promulgating the cancellation. The federal defendants also do not believe that enforcement of the temporary cancellation order under the MBTA, ESA, and the BGEPA would be sufficiently effective as an enforcement tool. Under those statutes, the Fish and Wildlife Service would not be authorized to bring an enforcement action directly against a registrant or distributor, and its enforcement authority against users of a strychnine pesticide product would be limited to situations involving the actual or attempted injury or death to a member of a protected species. Thus, enforcement under the wildlife conservation statutes would not be broad enough to implement the court's order effectively."

The USDA Forest Service will comply with the cancellation; however, most of the agency's applications of strychnine use below-ground application procedures. For followup

CONTACT: MAX OLLIEU (703) 235-8209

PROTECTING WOOD FROM PESTS

A workshop on protecting wood from termites and other wood-destroying pests is scheduled for October 11-13 in Arlington, VA. The theme of the workshop is "A New Look at Wood Protection." Specialists will discuss the latest developments, concepts, and procedures relating to protecting wood structures and wood products. Participants will learn about the critical issues facing the wood protection industry, new concepts in design and construction for wood protection, and the latest wood protection technology and research.

Registration information can be obtained from the National Institute of Building Sciences (NIBS), 1015 Fifteenth Street, N.W., Suite 700, Washington, D.C., 20005. The meeting will be held at the National Clarion Hotel, 300 Army-Navy Drive in Arlington. Call 1-800-848-7000 for room reservations.

CONTACT: NIBS (202) 347-5710

ANOTHER GYPSY MOTH NUCLEOPOLYHEDROSIS VIRUS STRAIN BEING EVALUATED

A report of USDA technology transfer activities recently listed an effort underway at the Agricultural Research Service to transfer technology regarding a new strain (Abbington IPL Ld. PB-Ld.) of gypsy moth virus. The TT agreement with IGB Products, Ltd. of San Leandro, Ca. is for the purpose of using this strain of GM virus in human health gene expression research; however, it could have pesticide-related implications later. For additional information

CONTACT: DR. E.M. DOUGHERTY FTS: 344-4328

NEW HERBICIDES FOR NEW BRUNSWICK

In the spirit of international cooperation, two USDA Forest Service herbicide specialists recently visited several herbicide spray-trial plots in New Brunswick, Canada. Max Williamson (R-8) and Larry Gross (WO) observed tests being conducted in New Brunswick for the purpose of gathering data on herbicide effects on target and non-target plants. This information will be used later to register products such as hexazinone and triclopyr for use in Canadian forests.

The major competing-vegetation problems in New Brunswick are raspberry thickets and maple resprouts. Both situations are causing problems with the successful establishment and growth of black spruce and white spruce.

In addition to observing the spray trial plots, the U.S. team was instrumental in transferring herbicide basal bark application technology, which was developed in the southern U.S., to the Canadians.

For further information on this cooperative effort

CONTACT: LARRY GROSS (703) 235-8209
HERBICIDE SPECIALIST FTS: 235-8209

THE GIFT OF MYRRH

With Lyme disease in the news (See "Short Subjects..." Issue No. 88-12 and *American Forests*, October, 1988), here's some good news to counteract the bad. A chemical gum that repels ticks has been found in a sweet-smelling African shrub. The shrub, a relative of the myrrh plant (*Commiphora* sp.) produces a gum that is toxic to the American dog tick and lone star tick. It also may repel the deer tick, which transmits Lyme disease to humans.

The African shrub has been used through the ages as a folk medicine and in perfumes. A visiting Fullbright fellow from Tanzania, A. Maradufu, performed some preliminary experiments in Kenya, after watching Kenyans rub branches of the shrub on their animals for protection against ticks. He wanted to test the shrub further here in the U.S. and got the chance do so with the USDA Agricultural Research Service (ARS, Beltsville, Md.).

Dr. John Carroll, an ARS researcher at the Insect Chemical Ecology Lab in Beltsville, sees the new repellent as an improvement over other tick repellents if it proves to be as effective. It smells better, and the fact that people have adopted it as a perfume and medicine indicates that it would get through dermatologic and other human health tests without undue delays.

Further testing of a purer extract of the substance awaits the arrival of more plants in the U.S. For followup

CONTACT: DR. JOHN CARROLL FTS 344-4171

C-130 AIRCRAFT AERIAL SPRAY SYSTEM EVALUTION

As reported in "Short Subjects..." Issue No. 88-7), USDA Forest Service, Forest Pest Management (FPM) personnel have been cooperating with the U.S. Air Force 907th Tactical Airlift Group, Rickenbacker ANG Base, Ohio, in evaluating a new spray system for C-130 aircraft. The 907th's mission includes control of forest defoliators, control of disease vectors, and vegetation management on Department of Defense lands. Testing of the C-130 was recently done at Avon Air Force Range in Florida. The purpose of the tests was to determine if the system meets the engineering specifications and performance of drop size and swath width. Preliminary indications are that the system does not meet specifications for low and high volume pesticide applications but does for ultra-low volume applications. FPM assisted in test design, conduct, and data evaluation. Two reports will be submitted to the USAF. For followup

CONTACT: JACK BARRY

FTS 460-1715

USDA TO ESTABLISH FUNGICIDE ASSESSMENT TEAM

The U.S. Environmental Protection Agency (EPA) is currently reviewing the major uses of fungicides (e.g., maneb, zineb, mancozeb, captan, chlorothalonil, and benomyl) in the U.S. and the Department of Agriculture (USDA) is gearing up to conduct an analysis of the benefits of their use. The analysis will be used by EPA in its evaluation of the risks and benefits of continued use. The analysis will be developed by a team of fungicide experts guided by the Technical Advisory Group of the National Agricultural Pesticide Impact Assessment Program (NAPIAP). The objectives of the NAPIAP Assessment Team will be to: (1) Assemble and interpret information on the use of chemicals in agricultural practices to control fungal-induced disease in the U.S., and (2) assess the economic and biologic impact of fungicides on agricultural production and marketing. Commodities on which fungicides are used that will be in the analysis include: cereals, field crops, nuts, tropical fruits, pomes, drupes, berries, ornamentals, vegetables, potatoes, sugar beets, turf, mushrooms, hops, peanuts, citrus, grapes, tobacco, and forestry. The use of fungicides for regulatory purposes (e.g., quarantines) will also be included.

The Forest Service has been requested to have a representative on the USDA Fungicide Assessment Team, which expects to publish a final report by September, 1989. A call letter requesting nominations of Forest Service personnel will be sent soon. For additional information

CONTACT: ZDENKA HORAKOVA
TOXICOLOGIST

(703) 235-8209
FTS 235-8209

END

**SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS**

September 9, 1988

TABLE OF CONTENTS

Topic	Page No.
Pesticide Legislative Activity.....	1
Gypsy Moth Virus Technology Transfer.....	2
Endangered Species and Pesticide-Use Checklist.....	3
BLM Vegetation Management EIS.....	3
Chemical Industry Labeling Conference.....	3
AIPM Update.....	4
Lyme Disease.....	5
Western Bark Beetle Work Group.....	5
Nursery EIS for California.....	6
Plastic Pesticide Containers.....	7
Pesticide Application Steering Committees.....	7
Product Handling vs Waste Handling.....	8

PESTICIDE LEGISLATIVE ACTIVITY

Prospects for a Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) bill this year remain dim even though there has been recent activity in both the House and Senate. Some members of Congress seem determined to "move" FIFRA, but recent efforts seem to be focused on various "pet" provisions, rather than any real effort to pass a bill. Since there are so few legislative days left this year, passage of a bill in 1988 is becoming unlikely.

The Senate Environment and Public Works Committee approved a set of FIFRA provisions on July 14th. The provisions would adopt the very severe and burdensome groundwater protection scheme found in S.1419, Senator Durenberger's bill. In addition, the Committee's provisions would specifically allow States to enact food tolerances that are more strict than Federal tolerances. The Committee also provided protection from liability for farmers who obey the pesticide label, but would make the registrant liable when the farmer is not. It is likely that each of these provisions will increase the controversy surrounding FIFRA, making passage of a new bill difficult.

On the House side, the House Agriculture Subcommittee on Department Operations, Research, and Foreign Agriculture reported out H.R. 2463 with very little debate on July 13th. H.R. 2463 was a "generally accepted" compromise bill. Markup on the bill in the full House Agriculture Committee was scheduled for the week of July 25th, but cancelled. For followup

CONTACT: MAX OLLIEU

(703) 235-8209

GYPSY MOTH VIRUS TECHNOLOGY TRANSFER

Field tests of the Forest Service-registered viral insecticide GYPCHEK have given promising results in 1987 and 1988. The time has come to (1) pilot test GYPCHEK on a larger scale (2) move further development and production of GYPCHEK to the private sector, and (3) encourage commercial production of GYPCHEK for use in future cooperative gypsy moth suppression programs.

Demand for GYPCHEK is coming from the National Park Service, National Forests, the Appalachian Integrated Pest Management Program (AIPM), and other Federal and State organizations. The Forest Service's ability to meet the demand for GYPCHEK is severely constrained, and the agency is desirous of "getting out of the business of being in business," (i.e., pesticide production).

Toward this end, a technology transfer (TT) agreement was recently developed and signed by the Forest Service; Espro, Inc. of Columbia, Maryland; and the Maryland Department of Agriculture. The basic purpose of the TT agreement is to transfer Federal agency technology to the private sector.

Al Adamson, President of Espro, Inc. indicated he believes he can improve upon current production procedures and eventually reduce production costs by as much as 10 percent, leading to a product that could be produced at an estimated cost of \$17 to \$20 per acre treatment. Initial emphasis under the new TT agreement will be to concentrate on the gypsy moth rearing, inoculation, production, harvesting, and processing portion of the production cycle. Proposals include that less media be used, that gypsy moth larvae be reared to 4th instar instead of pupation, that square instead of round containers be used, and that the \$5.00 holding trays currently being used be eliminated.

Using these modified procedures, Espro hopes to maximize production efficiency and be able to produce 200 acre treatments for use by the Forest Service by February 1, 1989. An additional 800 acre treatments could be made available by September 1, 1989. If the Espro material meets the end-product specifications of the Forest Service, the agency would initiate procurement procedures to obtain GYPCHEK for expanded pilot testing in 1989 and to encourage more extensive commercial production to meet projected demands for 1990 and beyond.

Under this agreement, the FS agrees that it will provide Espro with exclusive right to GYPCHEK production/registration information, gypsy moth eggs, and virus inoculum. In return, Espro will attempt to improve GYPCHEK production and try to meet the needs of the FS and others from within the private sector.

To prevent the FS from having "all its eggs in one basket," the agency will continue to cooperate with the Animal and Plant Health Inspection Service (APHIS) to produce 1,000-2,500 acre treatments of GYPCHEK for use in 1989. In addition, the Maryland Department of Agriculture, as part of the tri-partite agreement, will provide insectary facilities to Espro for 16 weeks. In return, the FS will provide Maryland 50-100 acre treatments of GYPCHEK for use in 1989.

For additional information on this technology transfer effort

CONTACT: DENNIS HAMEL

(703) 235-8209

ENDANGERED SPECIES AND PESTICIDE-USE CHECKLIST

In response to the Environmental Protection Agency's (EPA) Endangered Species Protection Plan (See "Short Subjects...." Issue Nos. 4,5,8), the USDA Forest Service has developed a checklist of species and pesticide uses that may occur on National Forest System lands. A draft of the checklist will soon be sent to the Regions, Stations, and Area for review. The checklist summarizes by Region and State the endangered species listed by EPA's program as possibly being harmed by pesticides. A listing of pesticide use has been combined with endangered species information. It will be requested that pesticide coordinators and other involved persons review the checklist for accuracy and determine if the listed pesticides are actually used in forestry and/or on National Forest System lands. If so, it will need to be determined what mitigation measures are being used to ensure the safety of endangered species. The purpose of the checklist will be to get a better handle on how EPA's program will impact forestry and the Forest Service.

For further information on the checklist or the program

CONTACT: SHELLY WITT

(703) 235-8209

BLM VEGETATION MANAGEMENT EIS RELEASED

The California State Office of the Bureau of Land Management (BLM), U.S. Department of the Interior, released its Final Environmental Impact Statement (FEIS) for "California Vegetation Management," in August. This FEIS describes and analyzes the environmental impacts of implementing a program to control vegetation on BLM lands in California and northwest Nevada. In accordance with the National Environmental Policy Act (NEPA) the FEIS identifies impacts on the natural and human environment of three alternatives: full use of herbicides and other vegetation management methods, no aerial use of herbicides, and no use of herbicides. The preferred alternative is to use all types of vegetation management on about 35,800 acres. Herbicides would be applied to about 6,000 acres of this total using both aerial and ground application methods.

The BLM FEIS contains an analysis of over 300 comment letters received on the Draft. In addition, comments on the FEIS will be considered until September 30 when a final decision regarding vegetation management will be made.

For followup

CONTACT: ED HASTEY
STATE DIRECTOR

2800 COTTAGE WAY
SACRAMENTO, CALIFORNIA 95825

CHEMICAL INDUSTRY LABELING CONFERENCE

The 11th Annual Chemical Industry Labeling Conference will be held October 27-28 at the Park Hyatt Hotel in Washington, DC. To attend this conference on hazard communication, toxicology, label standards, labels, and liability

CONTACT: EXECUTIVE ENTERPRISES, INC. 1-800-831-8333

AIPM UPDATE

The Appalachian Integrated Pest Management Program (AIPM) demonstration project recently completed its first field season and is planning future efforts intended to show that the spread of the gypsy moth can be slowed and its impacts reduced. New technology will be evaluated to determine the most effective and appropriate methods of application. As new technology becomes available, it will be incorporated into gypsy moth management plans to help meet resource management objectives. The AIPM program offers a unique opportunity to coordinate information on the gypsy moth and to take a more proactive role in dealing with this pest.

AIPM field activities in 1988 included monitoring and surveying male moths, egg masses, and defoliation levels, and providing technical and financial support for methods development studies. For example, a survey and monitoring system was set up in the AIPM project area in Virginia and West Virginia using pheromone traps. The traps are being monitored for male moth catches. In addition, defoliation estimates are being made both on the ground when pheromone traps are removed and by using optical bar photography. In the coming months, timed-walk and fixed-radius plot surveys will be conducted to estimate egg mass densities and delineate boundaries of potential problem areas. This monitoring and survey system is designed to provide a broad qualitative profile of gypsy moth populations and form the basis for selecting suitable areas for intervention in 1989.

Methods development studies involving two pesticides are also being planned. GYPCHEK, the nucleopolyhedrosis virus of the gypsy moth that is registered by the Forest Service for gypsy moth control has recently been formulated with a lignosulfonate called Orzan LS. An aerial test of GYPCHEK-Orzan LS conducted in Maryland in 1987 showed promising results: egg mass populations were reduced by approximately 98 percent when compared to control plots. A further test of GYPCHEK-Orzan LS is being planned for the AIPM project in moderate and increasing gypsy moth population areas on the George Washington National Forest. Egg mass counts, defoliation estimates, and NPV larval mortality estimates will be conducted as a followup to this test.

Experimental work with disparlure, the natural chemical attractant of female gypsy moths, has resulted in the development of LURETAPE, a controlled release formulation of the pheromone. LURETAPE has proven to be highly effective in disrupting communication and mating success of female gypsy moths in low density populations. However, acceptance of mating disruption as a practical pest management tool is dependent, in part, on demonstrating a population reduction or a dampening of population increase. In 1988, LURETAPE was evaluated in the AIPM project by placing racemic disparlure (HERCON LURETAPE) in the George Washington National Forest. As a followup, milk carton pheromone traps have been placed in each treatment plot to determine the level of disorientation of mating communication. Comparisons will be made of male moth captures between traps located within pheromone-use areas and control plots.

For followup on any of the AIPM efforts

CONTACT: DICK REARDON

(304) 291-4891

LYME DISEASE

Named for Lyme, Connecticut where it was first identified in this country in 1975, Lyme disease is an affliction that humans get when bitten by deer ticks (e.g., Ixodes dammini) that have also fed on white-footed deer mice that harbor the bacterium Borrelia burgdorferi.

Lyme disease is characterized initially by a rash or lesion following a tick bite. This is followed by flu-like symptoms and eventually arthritis-like conditions. Early treatment of tick-bitten persons is very important.

In addition to early treatment, scientists are developing tick control and tick repellent acaricides that may prove helpful in keeping the incidence of Lyme disease at manageable levels. For example, an innovative, permethrin-containing product called DAMMINIX is being used to eliminate bacteria-harboring ticks. DAMMINIX was developed at the Harvard University School of Public Health and is marketed by Eco-Health of Boston. It works by taking advantage of the nesting habits of white-footed mice that will enter cardboard tubes filled with pesticide-treated cotton balls. The cotton balls are taken back to the burrows by the mice and there the permethrin kills the ticks that come into contact with the balls.

Another permethrin product (PERMANONE) has been registered in certain States (e.g., AR, MO, TN, KY, OK, TX, VA, SC, AL, NE, OH, FL, MD, CO, GA, ND, NJ, WV, NM, MS, DE, LA, AND NC) as a tick repellent. Applied to outer clothing, the acaricide repels and kills ticks that are capable of transmitting Lyme disease.

For additional information about Lyme disease, contact your health and safety group. For information on pesticides for tick management

CONTACT: DENNIS HAMEL

(703) 235-8209

WESTERN BARK BEETLE WORK GROUP MEETING

A group of entomologists familiar with western bark beetles will meet September 28 and 29 in Boise, Idaho to discuss operating guidelines to be used for funding FY 1989 bark beetle projects that may involve the use of pheromones. The group plans to:

Identify types of operational western bark beetle pheromone uses that should be eligible for FPM funding in FY 1989.

Develop recommendations on FY 1989 FPM funding priorities for varying types of western bark beetle suppression projects.

Identify high priority western bark beetle management technology development needs that the group believes should be initiated in FY 1989.

For followup

CONTACT: TOM HOFACKER

(703) 235-1554

NURSERY EIS FOR CALIFORNIA

The Pacific Southwest Region (R-5) announced its plan to prepare an environmental impact statement for "Pest Management Activities at the Humboldt Nursery, McKinleyville, California; Placerville Nursery, Camino, California; and Chico Tree Improvement Center, Chico, California" in the August 25 Federal Register (Vol. 53, No. 165, p. 32417).

The purpose of the EIS will be to identify and consider a range of alternatives for this project. One of those will be "no action." Other alternatives will take into consideration a range of methods for the prevention and control of unwanted vegetation, diseases, insects, and animals in the Region's nurseries and tree improvement center. Possible methods include biological, chemical, manual, and mechanical techniques. The activities that require prevention and control include cover cropping, seed pre-treatment, nursery seedbed and greenhouse preparation, sowing, seedling growth from germination to lifting, seedling storage, and seed orchard management.

Public participation will be especially important at several points during the analysis. The Forest Service will be seeking information, comments, and assistance from Federal, State, and local agencies and other individuals or organizations who may be interested in or affected by the proposed project during scoping. This input will be used in preparation for a Draft Environmental Impact Statement (DEIS). The scoping process includes:

1. Defining the scope of the analysis and nature of the decisions to be made.
2. Identifying the issues and determining the significant issues for consideration and analysis within the EIS.
3. Defining the proper interdisciplinary team make-up.
4. Determining the effective use of time and money in conducting the analysis.
5. Identifying potential environmental, technical, and social impacts of the EIS alternatives.
6. Determining potential cooperating agencies.
7. Identifying groups or individuals interested or affected by the decision.

The DEIS is expected to be filed with EPA and be available for review by February 1989. At that time EPA will publish a notice of its availability in the Federal Register and comments will be solicited. After the comment period ends on the DEIS, the comments will be analyzed and considered by the FS in preparing the FEIS. The Final is scheduled to be completed by June 1989.

For followup

CONTACT: J. THOMAS WHEAR

(916) 622-5062

7

USE OF PLASTIC PESTICIDE CONTAINERS TO BE ENDED BY SANDOZ

Acknowledging special public interest in recycling, the Sandoz Crop Protection Corporation announced its intent recently to address the issue by no longer using plastic pesticide containers. Dr. David Whitacre, a Sandoz Vice President told participants at an American Association of Pest Control Officials (AAPCO) meeting that 80 percent of agricultural chemical containers are plastic. By comparison, only 7 percent of total American garbage is plastic. In facing up to this problem, Sandoz has decided that the best way to handle disposable plastic containers is to stop using them. Sandoz says they have a corporate commitment to eliminate disposable plastic containers from their business as soon as they can. During the past growing season they introduced bulk distribution for one of their liquid products that had previously been sold only in 2 1/2 gallon plastic jugs.

Sandoz has also committed funds to an extensive formulation research project that will move existing products away from forms that require plastic containers. The goal is to move toward formulations that will permit the use of biodegradable containers. This fall, one of Sandoz's biological insecticides will be sold in a new, dry flowable, rather than liquid form. Sandoz admits that they cannot do this all at once, but ultimately they hope the new process will be less costly to them and the environment.

For followup

CONTACT: SANDOZ CROP PROTECTION, CORP. (312) 699-1616

PESTICIDE APPLICATION STEERING COMMITTEES FORMED

Several National Steering Committees that will be involved with developing guidelines for future aerial applications of pesticides were formed recently. Jack Barry, National Aerial Application Specialist, Davis, California, will serve as team leader for each Steering Committee. The purpose of the committees is to focus expertise on pilot project needs and develop an overall plan of action for followup by the Regions, Stations, and Area. A Steering Committee has been established for each of the following subject areas (1) Defoliators of western conifers, (2) gypsy moth and other eastern forest defoliators, (3) insects of seed orchards, and (4) vegetation management.

For additional information about the Steering Committees or if you want a list of the committee members

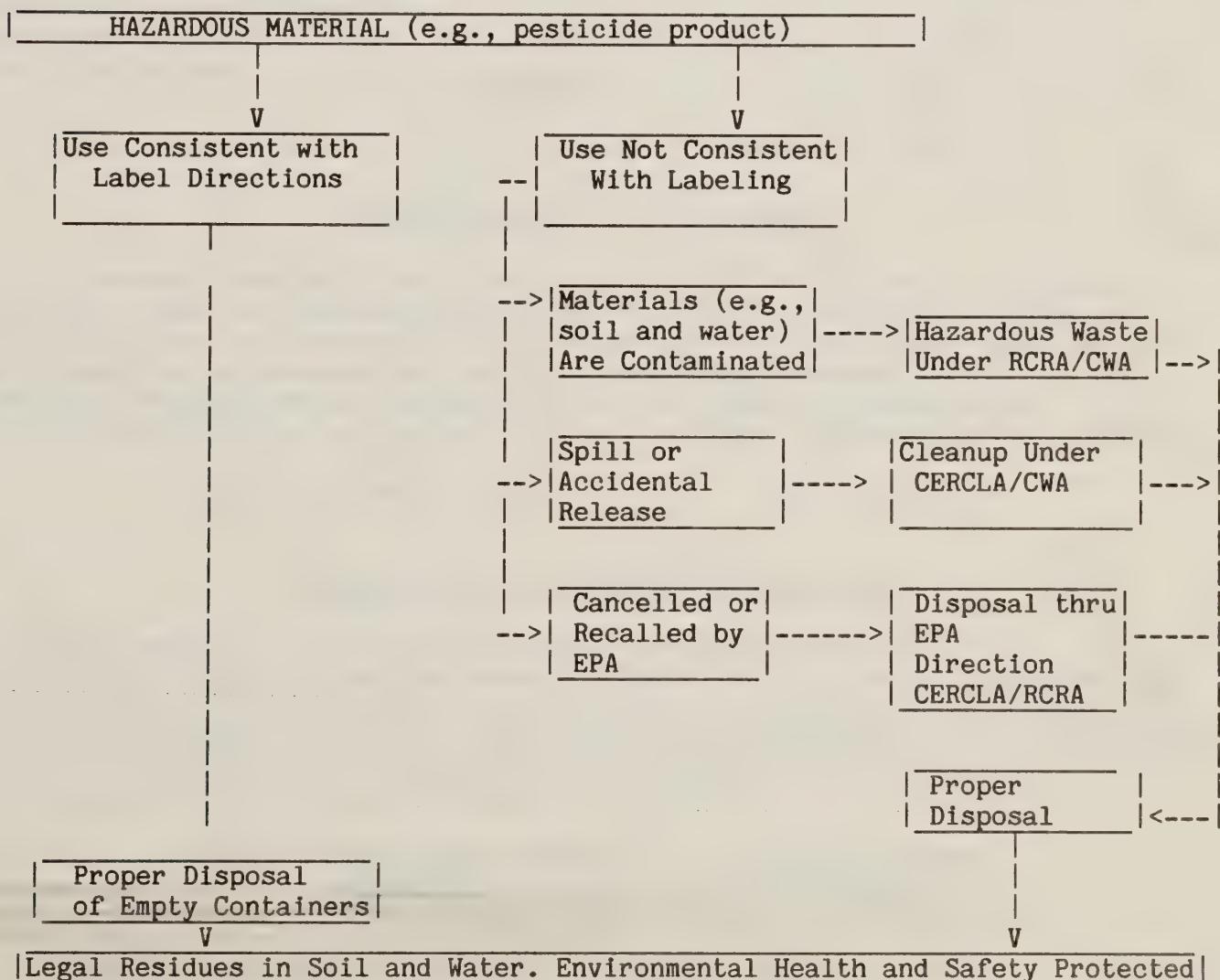
CONTACT: JACK BARRY (916) 758-4600
APPLICATION SPECIALST FTS: 460-1715
DAVIS, CALIFORNIA DG: J.BARRY:SCS06

PRODUCT HANDLING VS. WASTE HANDLING

The vast majority of hazardous pesticide products are handled by USDA Forest Service (FS) personnel in a manner consistent with product labeling. This results in proper disposal and legal residues. However, when products are used in a manner inconsistent with the labeling, hazardous wastes can occur. These must then be dealt with according to Superfund or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation Recovery Act (RCRA), or the Clean Water Act (CWA).

There have been instances when FS personnel have not properly disposed of pesticides (e.g., 2,4,5-T) and/or pesticide containers that have resulted in situations involving CERCLA, RCRA, or CWA. To avoid similar problems in the future, the following "guide" may be helpful to illustrate normal (authorized releases) versus hazardous waste handling (use not consistent with labeling).

PRODUCT HANDLING-----VS-----WASTE HANDLING



SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS

August 19, 1988

TABLE OF CONTENTS

<u>Topic</u>	<u>Page No.</u>
"Short Subjects..." via TELEMAIL.....	1
Integrated Pest Management Position.....	1
GYPCHEK Technology Transfer.....	2
NPIRS Data Acquisition.....	3
Biotechnology Exposition.....	3
EPA Office of Pesticide Programs Reorganization.....	4
Chevron/Sumitomo BecomeS Valent U.S.A.....	4
AGDISP on Personal Computer.....	5
Wood Protection.....	5
Pesticide Reviews.....	5-6

"SHORT SUBJECTS..." VIA TELEMAIL

State Foresters have previously been receiving "Short Subjects..." issues in hard copy; however, beginning with Issue No. 88-10 we initiated mailing via TELEMAIL on the Data General. It is hoped that this new transmission method will expedite the process and result in more timely receipt of pesticide-related forestry information in the States. If anyone is dissatisfied with the new approach of sending "Short Subjects..." via TELEMAIL

CONTACT: DENNIS R. HAMEL

(703) 235-8209

INTEGRATED PEST MANAGEMENT POSITION OPEN

A program manager's position announcement has been advertised for the Appalachian Integrated Pest Management Program (AIPM). The AIPM program will be headquartered in Morgantown, West Virginia. The program manager will provide leadership, planning, advice, direction, administration, and technical assistance in developing an integrated pest management project (IPM) directed at the gypsy moth. For application information

CONTACT: USDA FOREST SERVICE
PERSONNEL

P.O. BOX 96090
WASHINGTON, DC

GYPCHEK TECHNOLOGY TRANSFER

Field tests of the Forest Service-registered viral insecticide GYPCHEK have given promising results in 1987 and 1988. The time has come to: (1) pilot test GYPCHEK on a larger scale; (2) move further development and production of GYPCHEK to the private sector, and (3) encourage commercial production of GYPCHEK for use in future cooperative gypsy moth suppression programs.

Demand for GYPCHEK is coming from the National Park Service, National Forests in Virginia and West Virginia, the Appalachian Integrated Pest Management Program (AIPM), and other Federal and State organizations. The Forest Service's ability to meet the demand for GYPCHEK is severely constrained and the agency is desirous of "getting out of the business of being in business," (i.e., pesticide production).

Toward this end a technology transfer agreement was recently developed by Forest Pest Management, Forest Insect and Disease Research, and WO-Procurement and Property personnel. The technology transfer agreement, which was approved August 18, will allow the Forest Service to cooperate with Espro, Inc. of Columbia, Maryland, and the Maryland Department of Agriculture to transfer Federal agency technology to Al Adamson, President of Espro. Mr. Adamson believes he can improve upon current production procedures and eventually reduce production costs by as much as 10 percent, leading to a product that could be produced at an estimated cost of \$17-20 per acre treatment.

Using upgraded production procedures, Adamson hopes to maximize production efficiency and anticipates being able to produce 200 acre treatments by February 1, 1989 for use by the Forest Service. An additional 800 acre treatments could be made available by September 1, 1989. If his products meet the end-product specifications of the Forest Service, then we would initiate procurement procedures to obtain GYPCHEK for use in the Appalachian Integrated Pest Management Program in 1989 and to encourage more extensive commercial production to meet projected demands for 1990 and beyond.

The FS agrees that it will provide Adamson with exclusive right to GYPCHEK production/registration information, gypsy moth eggs, and virus inoculum. Adamson in return will expend Espro, Inc. funds to improve GYPCHEK production and put his firm in a position to meet the needs of the FS from within the private sector.

In addition, the FS will continue to cooperate with the Animal and Plant Health Inspection Service (APHIS) to produce 1,000-2,500 acre treatments of GYPCHEK for use in 1989. The Maryland Department of Agriculture, as part of this tri-partite technology transfer agreement, will provide insectary facilities to Adamson for 16 weeks. In return, the FS will provide Maryland 50-100 acre treatments of GYPCHEK for use in the Maryland IPM Program in 1989.

If you have questions or want a copy of the technology transfer agreement

CONTACT: DENNIS R. HAMEL

DG:D.HAMEL:W01B

NEW NPIRS DATA ACQUISITION METHOD TO BE TRIED

In an effort to maximize Forest Service (FS) use of the National Pesticide Information Retrieval System (NPIRS) the FS recently signed a short-term agreement to use the services of an NPIRS custom data search person. Mr. Homer Hall of Annandale, Virginia is the Director of **Custom Data Searches**. He specializes in using NPIRS to provide customers (e.g., State agencies, industry representatives, and foreign and domestic pesticide users) with pesticide registration information. The FS, although it has an NPIRS membership and maintains eight member IDs, has determined that it may be more efficient and cost effective to use custom search techniques. Therefore, for the next several months we will evaluate this new data acquisition method.

To initiate the effort we are requesting that field personnel identify any NPIRS data outputs (See "Short Subjects..." Issue Nos. 88-1,9) from which they could benefit. For example, if you have a pesticide registration question, contact WO-FPM who in turn will call Mr. Hall. He will provide a verbal answer the same day with hard copy followup the next day if requested. Once a request has been filled WO-FPM will deduct the cost of the query from a standing purchase order.

The conduct of batch runs will be the most economical technique, therefore, we are also asking that field personnel identify all material safety data sheets (MSDS), fact sheets, or other NPIRS data outputs that are needed. Once we get a consolidated list of needs we will: (1) Check our files and send the most recent version of the information requested, or (2) request a custom data search and batch run. Outputs from the batch run will be copied for the WO files and forwarded to the appropriate requestor(s).

In time, if this system works well, individual IDs (that are currently not being used efficiently) may be discontinued. Determination of how the new approach is working will be made by WO-FPM, which will maintain an NPIRS Data-Use Log, and feedback from the field.

Please identify your pesticide registration, MSDS, and Fact Sheet needs now

CONTACT: DENNIS HAMEL
WO-FPM

FTS:235-8209
DG:D.HAMEL:W01C

BIOTECHNOLOGY EXPOSITION

A Bay Area Biotechnology Exposition (BABE '88) is scheduled to be held October 18-20 at the Oakland, California Convention Center. The theme of the exposition will be "Recent Advances in the Application of Biotechnology." The conference will include sessions on cancer, AIDS, Agriculture, and auto-immunity. The sessions will be chaired by Dr. Robert A. Filder, President of the Cetus Corporation.

For conference information

CONTACT: BABE '88

(408) 554-6644

EPA OFFICE OF PESTICIDE PROGRAMS BEING REORGANIZED

The U.S. Environmental Protection Agency (EPA) Office of Pesticide Programs (OPP) is being reorganized under Deputy Administrator Dr. Jack Moore. Key changes include the following:

<u>Staff</u>	<u>Contact</u>	<u>Function</u>
Policy and Special Projects	William Jordan	Legislative Analysis
Field Operations	Susan Wayland	Integrated Pest Mgt.
	Steve Johnson	Applicator Training
Public Information	Therese Murtaugh	Communications
Occupational Safety	Diane Horne	Health and Safety
Registration	Edwin Tinsworth	Administration
	Herb Harrison	Insecticides/rodenticides
Special Review	Frank Sanders	Herbicides/fungicides
	Edwin Tinsworth	Data Call-in
Health Effects	Janet Auerbach	Label Improvements
	Ted Farber	Risk Assessments
Environmental Fate	Reto Engler	Toxicology
	Anne Barton	Biotechnology
Biological and Economic	Amy Rispin	Ecological Effects
Analyses	Al Jennings	Benefits and Use

To discuss any aspect of the OPP reorganization

CONTACT: EPA OPP

(703) 557-7090

CHEVRON/SUMITOMO FORM JOINT VENTURE CALLED VALENT U.S.A.

Chevron Chemical Company and Sumitomo Chemical Company Ltd. of Japan signed a joint venture agreement creating Valent U.S.A. Corporation, which will develop and market agricultural chemical products in the United States.

The new company will be headquartered in Walnut Creek, California, and will be staffed by about 250 employees on loan from the two parent companies.

Major existing products that will be handled by Valent U.S.A. include: Bolero, Cobra, Diquat, Genate Plus, Genep, Furloe, and Rhino herbicides; Orthene, Dibrom, Monitor, and Volck insecticides; Ortho X-77 spreader adjuvant and Sprout Nip. Of the insecticides, Orthene is of special interest to forestry and the USDA Forest Service recently signed an agreement to work cooperatively with Valent U.S.A. personnel to fill data gaps needing attention prior to Orthene product reregistration.

If you would like additional information on Valent U.S.A. or the cooperative agreement

CONTACT: DENNIS R. HAMEL

(703) 235-8209

USING AGDISP ON A PERSONAL COMPUTER

A new publication entitled "Running the Forest Service Dispersal Code AGDISP on a Personal Computer" has just been released by the Missoula Technology and Development Center, Missoula, Montana.

The computer code AGDISP (AGricultural DISPersal) and its companion plotting code AGPLOT have been under development for the past seven years, and have to date operated only on large mainframe computer systems. With the advent of efficient personal computers (PC) it was appropriate to transfer these codes to the PC environment. This has now been accomplished and the publication referenced explains how to run AGDISP on an IBM-compatible personal computer

For a copy of the publication

CONTACT: BOB EKBLAD
MTDC

(406) 329-3900
FTS: 585-3900

WOOD PROTECTION

A workshop entitled "A New Look at Wood Protection" is being sponsored by the Wood Protection Council of the National Institute of Building Sciences (NIBS). The workshop will be held October 11-13 at the National Clarion Hotel, Arlington, Virginia.

The purpose of the workshop is to bring together individuals who are active in developing and implementing concepts and procedures for protecting wood structures and products from wood destroying organisms. Workshop participants will learn about the critical issues facing the wood protection industry, such as the effects of the U.S. Environmental Protection Agency's ban on the use of chlordane as a termiticide.

For additional workshop information

CONTACT: NIBS

(202) 347-5710

PESTICIDE REVIEWS

The Washington Office recently participated in two reviews of pesticide-use management and coordination (PUM&C) activities in the Southwestern Region (R-3) and in the Pacific Northwest Region (R-6). In R-3 the review covered all aspects of PUM&C; however, in R-6 the focus was on a review of the recently completed western spruce budworm suppression project.

Southwestern Region: In R-3 the team, which consisted of Max Ollieu (WO-FPM), Gerald Henke (WO-Range), Jack Barry (WO-Davis), Doug Parker (R-3), and George Matejko (R-6), opened their review in the Regional Office in Albuquerque. They then conducted a field phase with site visits to the Cibola, Coconino, Gila, Lincoln, Prescott, and Tonto National Forests and the Albuquerque Tree Nursery.

Discussions were also held with the New Mexico and Arizona Department's of Transportation concerning road right-of-way management needs.

The team commended R-3's work in six areas: (1) Development of an excellent review itinerary, (2) development of a Regional Pesticide Needs Assessment, (3) development and use of alternatives to pesticides, (4) cooperation with Research on the Battle Flat (chaparral management) Demonstration Project, (5) herbicide developmental work, and (6) monitoring soil pathogens at the Albuquerque Tree Nursery.

The team also identified six pesticide-related issues that they believe require followup attention. These included activities related to: (1) Pesticide storage and disposal, (2) communications, (3) NEPA documentation for general pesticide-use situations, (4) NEPA documentation for use of pesticides in nurseries, (5) noxious weed management, and (6) vegetation management expertise.

A discussion of these commendations and issues was held with the Regional Forester at closeout. A followup action plan is being developed.

Pacific Northwest Region: Mary Jo Lavin, Deputy Regional Forester in R-6 requested a review of the 1988 western spruce budworm (WSBW) suppression project on the Mt. Hood and Umatilla National Forests (See "Short Subjects..." Issue Nos. 1,4,7,8,9). The team consisted of Okie Grossarth (Fremont NF), Arden Olson (State of Washington), Steve Howes (R-6), Jim Conibear (Olympic NF), Bill Ciesla (R-6) and Max Ollieu (WO-FPM).

The review team commended personnel involved with the project in 12 different areas ranging from 100 percent treatment of acres qualifying for treatment to safety, use of the Incident Command System, and cooperation and teamwork.

The team also identified seven areas needing improvement. These included: (1) More time spent on pre-project planning, (2) Forest Supervisors and Incident Commanders need flexibility in determining the degree of appropriate risk to take, (3) agency cooperators and private landowner involvement during all phases of project planning, including development of NEPA documents and application contracts, (4) FS use of the Incident Command System, (5) FS contracting procedures, (6) agency opportunities to reduce long-term commitments of personnel to spray projects, and (7) Forest Pest Management use of the operational pest suppression project recommendations as the basis for future pest control planning efforts.

For additional information on either of these reviews

CONTACT: MAX OLLIEU

(703) 235-8209
FTS:235-8209

END

**SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS**

August 5, 1988

TABLE OF CONTENTS

<u>Topic</u>		
Pesticide Benefits Assessment Report.....	1	
NAPIAP Proposals.....	2	
Healthy Forests, Healthy World.....	2	
Strychnine Label Changes.....	3	
Short Subjects Index.....	3	
Herbicide Risk Assessment.....	4	
Society for Environmental Scientists and Engineers.....	5	
Groundwater Protection.....	6	
MSMA/Cacodylic Acid Surpluses.....	6	
Farmworker Protection Standards.....	7	
AGDISP Outputs.....	7	

PESTICIDE BENEFITS ASSESSMENT REPORT AVAILABLE

In February 1987, an evaluation study was initiated on the pesticide benefits assessment process by the U.S. Department of Agriculture. The benefits assessment study was initiated by the Cooperative State Research Service and conducted under contract by Ohio State University. The resultant report (released July 1988) is based on the results of a national survey of personnel associated with pesticide benefits assessments. The report that summarizes the survey represents a condensed overview of the most important issues in the current pesticide benefits assessment process. The report also offers recommendations for significant improvements in the processes used. For example, the report recommends:

- Increasing efforts toward understanding and delineating USDA/State/EPA missions;
- Defining limitations within those missions;
- Developing policies and work plans promoting future intra-agency and industry cooperation; and
- Improving coordination of work within the USDA/States/EPA.

For a copy of the publication entitled "Agricultural Benefits Derived from Pesticide Use: A Study of the Assessment Process,"

CONTACT: NANCY RAGSDALE

(202) 447-7895

NAPIAP PROPOSALS DUE SOON

It isn't too early to begin thinking about proposals you would like to submit for fiscal year 1989 funding consideration under the National Agricultural Impact Assessment Program (NAPIAP). Proposals aimed at filling data gaps for existing forestry-use pesticides are encouraged.

A call letter will soon be sent by the Washington Office (file designation 6520) requesting proposals. Now is the time to start thinking about studies that will fill data needs, such as (1) Benefits (in terms of resource yield) from the use of pesticides in forestry, (2) impacts on wildlife (especially threatened and endangered species), (3) ground- and surface water contamination, (4) worker exposure, (5) residues in soil and from plants; and (6) fate in the forest environment. Additional topics to be considered are: dislodgable pesticide residues, worker exposure studies for conventional chemical and biological pesticides, pesticide movement in the forest environment, effects of forestry-use pesticides on aquatic life, metabolism, retention, and excretion of pesticides in and from animals and plant tissues, drift of pesticides in forest environments, pesticide residues on edible forest products, and public exposure to forest-use pesticides.

If you have questions about the kinds of proposals that might be given priority consideration or would like to receive a set of "Guidelines for Preparing NAPIAP Proposals,"

CONTACT: ZDENKA HORAKOVA

(703) 235-8209

HEALTHY FORESTS, HEALTHY WORLD

"Healthy Forests, Healthy World" is the theme of the 1988 Society of American Foresters annual meeting scheduled for October 16-19 in Rochester, New York. William K. Reilly, President of the Conservation Foundation and the World Wildlife Fund will give the keynote address and general sessions will be devoted to topics such as: Interrelationships Between Forests and People, Challenges to Achieving Healthy Forests, Monitoring the Quality of the Forest Environment, and Forest Health Management for the Future, the conference promises to be a milestone event. Other sessions will be devoted to discussions of:

Forest Ecology
Land Use Planning
Forest Products
Silviculture

Land Reclamation
Recreation
Fire
Urban Forestry

Wilderness Management
Education & Communication
Forest Pest Management
Human Resources

In addition, there will be several working group side trips. The one for forest pest management/silviculture will tour an area of northern hardwoods in Allegany State Park. Participants on this tour will view management problems created by beech bark disease and gypsy moth in heavily used forest areas.

For convention reservation information

CONTACT: SAF

(202) 897-8720

STRYCHNINE LABEL CHANGES REQUESTED

As indicated in "Short Subjects..." Issue No. 88-5, a U.S. District Court in Minnesota recently ruled that the U.S. Environmental Protection Agency's (EPA) continuing approval of strychnine uses for above-ground control of certain rodents constituted illegal taking of threatened and endangered species and ordered the agency to discontinue the registrations. As a result of this decision, the Forest Service (FS) initially advised strychnine users that they should discontinue the use of strychnine-treated bait applied with burrow builders for pocket gopher control. Even though pocket gophers were not one of the species listed in the Minnesota Court Order, the burrow builder is currently on the label with other uses considered above-ground applications.

The FS later reconsidered its position and concluded that burrow builders should continue to be considered below-ground application devices, unaffected by the Minnesota court case. However, the agency continued to be concerned about the future availability of the devices since burrow builder applications currently appear on the label (EPA Registration No. 6704-58) with other above-ground uses rather than on the label (EPA Registration No. 6704-83), which covers below-ground uses. This labeling confusion makes burrow builder applications vulnerable to the same interpretations of the Endangered Species Act, Migratory Bird Treaty Act, and the Bald and Golden Eagles Protection Act as for other above-ground uses. Therefore, the FS requested USDA Animal and Plant Health Inspection Service (APHIS), Animal Damage Control (ADC) personnel to amend their strychnine bait registration application with EPA to include use of the burrow builder for pocket gopher control with the other below-ground strychnine uses on the 6704-83 label and to remove this application method from the 6704-58 label. APHIS/ADC responded saying they will consider this request. In the meantime they have advised us that the new APHIS/ADC registration numbers are 56228-12 and 56228-20 for above- and below-ground uses respectively.

For followup on the changing registration status of strychnine

CONTACT: DENNIS HAMEL (703) 235-8209
PESTICIDE SPECIALIST FTS: 235-8209

SHORT SUBJECTS...INDEX AVAILABLE

Respondents to an earlier "Short Subjects..." request for feedback, requested that a continuously updated Index be made available via the Data General. This request has been accommodated. To receive a copy at any time

CONTACT: DENNIS HAMEL (703) 235-8209
EDITOR DG:D.HAMEL:W01C

HERBICIDE RISK ASSESSMENT

The Southern Region of the Forest Service (R-8) recently released its summary of a draft risk assessment for the use of herbicides in Region 8. The risk assessment describes potential effects on human health, wildlife, and aquatic species that could result from the use of fourteen different herbicides and herbicide adjuvants in vegetation management programs on National Forests and Grasslands in the Southern United States. The herbicides are: 2,4-D, 2,4-*DP*, dicamba, fosamine, glyphosate, hexazinone, imazapyr, picloram, sulfometuron methyl, tebuthiuron, and triclopyr. The herbicide adjuvants are kerosene, diesel oil, and limonene.

Human health risks from the use of herbicides and adjuvants are analyzed using risk assessment methods currently accepted by the scientific community and the U.S. Environmental Protection Agency. The risk assessment compares herbicide dosages that people may be exposed to with dosages determined likely to be "safe" to humans based on long-term studies of laboratory test animals. Dosages are estimated for people who may be exposed while applying herbicides or near application sites.

For herbicides that could possibly cause cancer, the risk of a person developing cancer in his or her lifetime is based on animal studies that relate tumor development to increasing levels of exposure to herbicides. The risk assessment also examines whether any of the herbicides are likely to cause mutations, synergistic or cumulative effects, or effects in sensitive individuals.

Because of uncertainty concerning many of the data and assumptions used in the analysis, the risk assessment uses a conservative approach that exaggerates estimated risks to human health. This approach involves choosing data and assumptions that ensure risks are not underestimated. For example, assumptions about herbicide applications, movement in the environment, and degradation tend to overestimate levels of exposure that workers, the public, and wildlife would likely receive. Toxicity levels used in judging risks are levels of exposure that caused no systemic or reproductive effects in the most sensitive test animals. The model used to estimate cancer risk uses cancer potencies derived from data on the species and sex that had the highest tumor rate. This conservatism in estimating exposures and in setting and extrapolating from toxicity levels thus exaggerates real risks of the herbicide application program to ensure that it errs on the side of protecting human health.

The analysis of risks to wildlife and aquatic species follows a similar approach to that used for estimating risks to humans. Estimated acute exposures of representative species are compared to acute toxicity levels found in laboratory studies.

For a copy of the risk assessment summary or if you want to review the full document or the EIS to which it is appended

CONTACT: STEVE MCQORQUODALE
TEAM LEADER

(404) 347-7076
FTS: 257-7076

SOCIETY OF ENVIRONMENTAL SCIENTISTS AND ENGINEERS PLANS ANNUAL MEETING

The Society of Environmental Toxicology and Chemistry (SETAC) is a non-profit, professional society established to provide a forum for individuals and institutions engaged in the study of environmental problems, management and regulation of natural resources, education, research and development, and manufacturing and distribution. Specific goals of the society are:

- Promoting research, education and training in the environmental sciences;
- Promoting the systematic application of all relevant scientific disciplines to the evaluation of chemical hazards;
- Participating in the scientific interpretation of issues concerned with hazard assessment and risk analysis;
- Supporting the development of ecologically acceptable practices and principles;

These goals are pursued throughout the conduct of numerous activities including:

- Holding an annual scientific meeting comprised of study and workshop sessions;
- Sponsoring a monthly scientific journal, a quarterly Society Newsletter, and special technical publications;
- Providing funds for education and training;
- Organizing and sponsoring chapters to provide a forum for the presentation of scientific data and for the interchange and study of information.
- Providing advice and counsel to technical and nontechnical persons about scientific issues.

This year's SETAC meeting will be held November 13-17 at the Hyatt Regency Crystal City, Arlington, Virginia. Platform sessions will include sessions on:

Ecotoxicology
Chemical Transport
Risk Assessment
Risk Communication

Environmental Fate Monitoring
Biodegradation/Biotechnology
Sediment Toxicity Testing
Expert Systems

Drinking Water
Exposure Models
Groundwater
Global Climate

Short courses will be conducted on: Environmental Monitoring by Immunoassay; Risk Assessment Methods in Biotechnology; and Good Laboratory Practices. For registration information

CONTACT: SETAC

(202) 785-2778

DEPARTMENT OF AGRICULTURE CRITICIZES EPA'S GROUNDWATER PROTECTION PLAN

USDA, in its critique of EPA's proposed groundwater protection strategy, called the document a pesticide-use management and control policy that "does not assure long-term protection or prevention of contamination from other sources."

The USDA criticized the proposal for overstating what is known about the extent and effects of groundwater contamination by pesticides, noting that while pesticides have been found in some wells in 24 States, the "findings are not widespread and the number of drinking water wells that have been closed for this reason is a very small percentage of the more than 12 million wells being used for water supplies." The agency added that presumptions about "widespread contamination" found in the document are "highly speculative," saying this "puts the appropriateness of the proposed regulatory strategy in serious question."

USDA also maintained that pesticide hazards resulting from cropland uses are not as serious health and environmental hazards as are oil spills, leaky fuel tanks, chemical wastes and hazardous waste disposal sites "and are not as generally distributed." It said EPA's pilot test of 48 wells found pesticide residues in only one of them but fertilizer residues were found in most.

The Department complained that EPA had not estimated what Federal and State costs would be if the strategy is adopted, that there was no discussion of possible compensation to farmers to encourage changes in pesticide-use management, and that forcing registrants to monitor the fate of their pesticides would force them to remove many low-use pesticides from the market.

The Department also said: "To some extent, the public concern for pesticides in groundwater has developed as a result of our improved technology for detecting substances in groundwater at the parts per billion or parts per trillion range. Future technology may be even more refined. If mere detection in groundwater is to be the criterion for cancelling the use of pesticides in recharge areas, these chemicals will eventually be removed from use, thereby removing many tools which now enable farmers to maintain the high quality of their produce."

In a letter accompanying the Department's comments, Peter C. Myers, Deputy Secretary, said, "USDA has the view that pesticide regulation of land areas should be used only as a last resort." For information on Forest Service input to the Department's response

CONTACT: RHEY SOLOMON

(703) 235-8163

MSMA/CACODYLIC ACID SURPLUSES

550 510

Anyone having excess MSMA (Silvisar 550) or cacodylic acid (Silvisar 500) to dispose of may be interested in knowing that the TSI Co. has agreed to take back said products even if it cannot be remanufactured. For disposal

CONTACT: TSI (MS. ROOPA)

(203) 366-1966

215 Maplewood Ave
Bridgeport Connect 06605

Mr Sengupta

510

FARMWORKER PROTECTION STANDARDS

EPA's proposed farmworker protection standards were published in the July 8 Federal Register (Vol. 53, No. 131, pp. 25970-26021). Comments on the proposed regulations are due October 6. Copies will soon be sent to Regional Pesticide Coordinators via an Advisory Memorandum and it is recommended they receive careful review since the regulations deal with persons who use pesticides in agriculture, farms, nurseries, greenhouses, and in forest.

The proposed regulations deal with pesticide-related occupational safety and health of workers performing hand labor operations in fields during or after application of pesticides. They contain four basic requirements: (1) A prohibition against spraying workers; (2) specific reentry intervals for 12 pesticides and general reentry intervals for all agricultural pesticides prohibiting reentry into treated fields until the sprays have dried or dusts have settled; (3) a requirement for protective clothing for any worker who reenters a treated field before the specific reentry period has expired; and (4) a requirement for "appropriate and timely" warnings.

Relative to forestry, EPA specifically seeks comment on: (1) whether the proposed standards are applicable, inapplicable, or only partially applicable to commercial forestry; (2) whether forestry workers, who have traditionally used leather boots for durability and breathability in rough terrain, are adequately protected from chemical exposure; and (3) whether sufficient water supplies are available during forest pesticide-use situations to wash eyes and skin in case of spills or other unintentional contact.

A consolidated FS response will be prepared and submitted to the Department. For input

CONTACT: LARRY GROSS

(703) 235-8209

FTS: 235-8209

AGDISP OUTPUTS

For the past 15 years, the USDA Forest Service and the U.S. Army have been pursuing the development of computer codes to predict the deposition distribution of aerially released materials. The two current codes are AGDISP and FSCBG.

AGDISP predicts the motion of aerially released materials and swath width characterization studies were conducted for AGDISP March 7-12, 1987 in Mission, Texas. The purpose of the evaluations was to measure and collect sufficient data to permit a quantitative comparison of the ground deposition results with AGDISP predictions.

A summary report of the evaluations has been published under the title, "Final Report, AGDISP Comparisons with the Mission Swath Width Characterization Studies," (May 1988, No. 8834-2801). For copies

CONTACT: BOB EKBLAD

(406) 329-3900

END

**SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS**

July 22, 1988

TABLE OF CONTENTS

<u>Topic</u>	<u>Page(s)</u>
Accident/Incident Investigation Guide	1
Forest Insect and Disease Conditions Report	1
Forest Pest Suppression Project Updates	2
World Forestry Congress	2
Rotenone	3
New Non-Pesticide	3
Shield for Occupational Dermatitis	4
Mountain Pine Beetle Preventive	4
EPA Fact Sheets on NPIRS	5
Acephate Implants	5
FSCBG2 Training	6

NEW ACCIDENT/INCIDENT INVESTIGATION GUIDE AVAILABLE

The USDA Forest Service Personnel and Civil Rights Staff recently released a new brochure entitled "Incident/Accident Investigation Guide." The guide contains procedures to be followed in the Washington Office when persons are notified of accidents or incidents. It includes guidelines on reporting such events as: aircraft mishaps, employee fatalities, hazardous materials accidents, and pesticide-use incidents.

In addition to describing notification procedures, the guide identifies the makeup of various investigation teams and lists the phone numbers of key personnel to contact in case of an accident or an incident.

For a copy of the pocket-sized brochure

CONTACT: JIM STEVENS (703) 235-169

FOREST INSECT AND DISEASE CONDITIONS REPORT AVAILABLE

The 37th issue of the Forest Insect and Disease Conditions Report has been released. The 3-part publication summarizes the status of major insect and disease pests on forests of all ownerships in the U.S. in 1987. For copies

CONTACT: TOM HOFACKER (703) 235-1554

FOREST PEST SUPPRESSION PROJECT UPDATES

DOUGLAS-FIR TUSSOCK MOTH: The California Region of the Forest Service reported completing treatment of an infestation of the Douglas-fir tussock moth (DFTM) on June 30. The project, which involved the treatment of 5,177 acres with Bacillus thuringiensis, was conducted without incident in white fir stands on the Plumas National Forest. For additional details see "Short Subjects...." Issue No. 88-7 or

CONTACT: JOHN NEISESS (415) 556-6520

WESTERN SPRUCE BUDWORM: The Pacific Northwest Region reports that western spruce budworm treatment was completed July 15. A total of 598,418 acres was treated at a cost of \$29.96 per acre; 516 people from all Forest Service Regions and the Northeastern Area worked on the project; 77 aircraft were used. Preliminary analysis of spray deposit on the foliage indicates good coverage was achieved. Preliminary data from post-treatment monitoring look promising with the target of less than one budworm larva per 18-inch branch being achieved. For additional information on the project, see "Short Subjects..." Issue Nos. 88-4,7, and 8 or

CONTACT: BILL CIESLA (503) 221-2727

GYPSY MOTH: The Northeastern Area (NA) and the Southern Region (R-8) completed treatment of 747,034 acres infested with the gypsy moth on June 4. Approximately 276,000 acres (37%) were treated using products containing the bacterium Bacillus thuringiensis. An additional 471,000 acres (63%) were treated with diflubenzuron (Dimilin^R). A few acres were treated successfully with the Forest Service-registered viral insecticide Gypchek. The next step in determining the success of the 1988 treatment program will be to aerially evaluate defoliation and conduct egg mass surveys this fall. For followup

CONTACT: DAN TWARDUS (NA) (215) 690-3157
CINDY HUBER (R-8) (704) 257-4329

GRASSHOPPERS: The Rocky Mountain Region (R-2) reports that on July 9 and 10, 3,320 acres were treated with malathion on the Cimarron Grasslands. The project was in cooperation with APHIS. For followup

CONTACT: BOB AVERILL (303) 236-3213

WORLD FORESTRY CONGRESS SCHEDULED

In 1990, Canada will host the 19th International Union of Forestry Research Organizations (IUFRO) World Conference. The event will take place in Montreal and will focus on the role of science in forestry in the next century.

To be placed on the mailing list to receive conference details

CONTACT: IUFRO MONTREAL 1990, INC.
BOX/C.P. 1990, PLACE D' ARMES
MONTREAL, QUEBEC, CANADA H2Y 3L9

ROTELONE

In July 1981 the EPA concluded that available data do not indicate that rotenone presents a risk of unreasonable adverse effects to man or the environment. With this, EPA completed their evaluation of rotenone under the Rebuttable Presumption Against Registration (RPAR) process. However, EPA asked that as a condition of continued registration that the U.S. Fish and Wildlife Service (FWS) perform additional studies to further characterize the potential of rotenone to produce adverse effects.

The FWS recently reported on the results of work done at the National Fisheries Research Center at La Crosse, Wisconsin as a followup to the EPA request. In a 1988 **Investigations in Fish Control** publication, the FWS reports on the acute and chronic toxicity of rotenone to Daphnia magna, the toxicity of rotenone to developing rainbow trout, and the oral toxicity of rotenone to mammals.

Summaries of these reports indicate that daphnid populations are reduced following rotenone treatment but these organisms are prolific and recover quickly. Because rotenone dissipates rapidly, there is little likelihood of chronic fish or fish egg exposure when the material is used as labeled. These reports also indicate that even high doses of rotenone do not cause tumors or reproductive failure in mammals, nor adversely affect fetal development. For followup on these studies

CONTACT: NATIONAL FISHERIES RESEARCH CENTER
U.S. FISH AND WILDLIFE SERVICE
P.O. BOX 818
LA CROSSE, WISCONSIN 54602

NEW NON-PESTICIDE

Biosys, a Palo Alto, California pest control firm dedicated to the development of environmentally safe products that use nature's own "pesticides," is marketing a new nematode-containing product called **BioSafe^R**. A package of **BioSafe^R** is composed of about 10 million nematodes of the Neoaplectana and Heterorhabditis genera. These nematodes are the natural enemies of root weevils, webworms, white grubs, cutworms, and other pests.

Biosys was founded by Bernard Oliver, William Hewlett, and David Packard, all of Hewlett-Packard fame. Their company's production facility is an 8,000 gallon reactor tank in Edmonton, Alberta, Canada. It is filled with bacteria on which the nematodes thrive until ready for packaging as **BioSafe^R**. When sold the product is mixed with water and sprayed.

According to U.S. EPA spokesperson Phil Hutton, **BioSafe^R** need not be registered as a pesticide since it is not the nematodes that kill their hosts but a bacterium released by the nematode that grows in the host insect gut causing mortality. For more information on **BioSafe^R**

CONTACT: BIOSYS, INC.
PHIL HUTTON (EPA)

(415) 856-9500
(703) 557-2690

SHIELD FOR OCCUPATIONAL DERMATITIS

MultiShield^R, a product developed by Interpro, Inc. of Haverhill, Massachusetts and tested by the USDA Forest Service in Missoula, Montana, is designed to protect workers from the pain and discomfort of "occupational dermatitis."

Occupational dermatitis is the term used to describe any work-related inflammation of the skin. It reportedly accounts for more than one-half of all occupational illnesses and approximately one-quarter the cost of such illnesses. It affects workers in every industry including forestry.

Occupational dermatitis is attributable to a number of predisposing and direct causes. Predisposing factors include: age, sex, skin texture and color, perspiration, allergies, cleanliness, and season of the year. Direct causes include: mechanical and physical irritation, plant and other biological irritants, and chemical exposure.

In forestry, plant, other biological, and chemical irritants are the primary causes of occupational dermatitis and prevention should be the goal to avoid pain, discomfort, and loss of work. **MultiShield^R** is a preventative which forms an insoluble layer on the skin and acts as a barrier to chemical entry. It can be used to protect the skin from sunlight, poison ivy and poison oak, fungal, parasitic or bacterial irritants, and pesticides or other chemicals.

For ordering information

CONTACT: INTERPRO, INC.

(617) 373-2438

MOUNTAIN PINE BEETLE PREVENTIVE SPRAYS

A recent issue of the **Western Journal of Applied Forestry** (Vol.2, No. 4, October 1988) includes an article by Dr. Patrick Shea of the Pacific Southwest Forest and Range Experiment Station, and former USDA-FS employee Mark McGregor of PheroTech, Inc. The article reports on their work on the Flathead National Forest in Montana, where they evaluated the effectiveness of various formulations of carbaryl in protecting individual lodgepole pines from attack by mountain pine beetles. Unfortunately, as reported by Dr. Shea at the recently held Canada/U.S. mountain pine beetle symposium in Kalispell, Montana, some of the formulationstested are no longer being marketed as bark beetle preventives by the manufacturer--Rhone-Poulenc Ag Company.

For an update on current research, request a copy of "A New Formulation and Reduced Rates of Carbaryl for Protecting Lodgepole Pine from Mountain Pine Beetle Attack," from the Pacific Southwest Station or

CONTACT: PAT SHEA

(415) 486-3372

DG: P.SHEA:S27A

EPA FACT SHEETS ON NPIRS

The U.S. Environmental Protection Agency (EPA) continuously updates its pesticide "fact sheets" and supplies them to the National Pesticide Information Retrieval System (NPIRS) for online access. Currently there are 160 fact sheets available, approximately 44 provide data on pesticides commonly used in forestry.

Fact Sheets are scientifically valid summaries of specific pesticidal active ingredients. They include a description of the chemical, use patterns and formulations, toxicological data on the pesticide, tolerances, and data gaps.

The following forestry-use pesticides have Fact Sheets online with NPIRS:

Picloram	<u>Bacillus thuringiensis</u>	Copper Sulphate
Lindane	Dicofol	Coal Tar/Creosote
Dichlobenil	Propanil	Dalapon
Dicamba	1,2-Dichloropropene	2,4-D
Naptalam	Disulfoton	Fensulfothion
Fenaminosulf	Naled	Fluometuron
Dodine	Methyl bromide	Carbaryl
Diazinon	Trichlorfon	Azinphos-methyl
Chlorpyrifos	Oxydemeton-methyl	Thiram
Simazine	Captafol	Chlorotalonil
Dichlorvos	Carbofuran	Cyhexatin
Acephate	Tebuthiuron	Fenitrothion
Amitraz	Asulam	Diflubenzuron
Fenvalerate	Metalaxyl	Arsenal

For further information on NPIRS or Fact Sheets

CONTACT: NPIRS

(317) 494-6614

ACEPHATE IMPLANTS

The June 1988 issue of **Forestry Research West** includes an article on the cost efficient and effective results obtained when acephate implants (Acecaps^R) were used to protect Douglas-fir from western spruce budworm defoliation. In addition to the summary provided in **Forestry Research West**, two detailed reports provide complete information and are available from Forest Service research stations. The reports are entitled: "Effectiveness of Trunk-Implanted Acephate for Protection of Select Douglas-fir from Western Spruce Budworm Defoliation," (R6-86-15), and "Effectiveness of Fall and Spring Timings of Trunk-Implanted Acephate for Protection of Select Douglas-fir from Western Spruce Budworm Defoliation," (R6-87-01). For additional information

CONTACT: ROGER SANDQUIST

(503) 221-2727
DG: R.Sandquist:R06A

FSCBG2 TRAINING SCHEDULED

A hands-on FSCBG2 model training course has been tentatively scheduled at Oregon State University the week of February 6, 1989. The FSCBG2 model can calculate spray concentrations, dosages, and deposition above forest canopies and spray deposit within canopies on the forest floor. The current version of the model is operable on an IBM or compatible computer. It predicts spray behavior and is a useful tool for planning, conducting, and evaluating aerial spray projects. For additional information

CONTACT: JACK BARRY

(916) 758-4600
DG: J.BARRY:SCS06

END

MESSAGE SCAN

TO PEST NEWS

From: Dennis R. Hamel:W01B
Postmark: Jun 29,88 2:48 PM
Status: Certified Previously read

Jack

Jim

Ted

Jim

-----X-----

SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS

June 30, 1988

TABLE OF CONTENTS

Topic	Page Number(s)
Agricultural Chemicals and the Environment.....	1
R-4 Environmental Impact Statement.....	2
Endangered Species Protection Plan.....	2
Computerized Risk Assessment Program.....	3
Waterless "Pesticide" Hand Cleaner.....	3
National Pesticides in Wellwater Survey.....	4
Herbicidal Eradication of Coca.....	4
Risk Assessment and Risk Communication.....	5
Forest Pest Suppression Project Updates.....	7
National Pesticide Certification and Training Workshop.....	7
Pesticide Labeling Videotape.....	8
Environmental Information Center.....	8

AGRICULTURAL CHEMICALS AND THE ENVIRONMENT

A May 1988 special reprint of *Agricultural Outlook* from the USDA Economic Research Service (ERS) focuses on "Agricultural Chemicals in the Environment." The 19-page series of reprints covers topics such as: "Farm Chemicals and Groundwater Quality;" "Controlling Farm Pollution of Coastal Water;" "Water Quality Act and U.S. Farming;" "A Survey of Resource and Environmental Policies Affecting Agriculture;" and "Alternative Agriculture."

These articles present an overview of the extent of agricultural chemical pollution problems, review the Government's suggestions for regulation and research, and examine farmers' moves to alternative agriculture.

Although not all articles are directly related to pesticide use in forestry, they present important issues and excellent graphics. Copies of the special reprint have been ordered and will soon be sent as an Advisory Memorandum. In the meantime, followup information may be obtained from ERS

CONTACT: CLARK EDWARDS

(202) 786-3313

INTERMOUNTAIN REGION PLANS FOR VEGETATION MANAGEMENT EIS

On June 7 the Intermountain Region (R-4) announced its intent to prepare a Regionwide programmatic vegetation management environmental impact statement (EIS). The analysis for the EIS is underway and the final EIS is expected to be finished, published, and distributed to the public by May 1, 1990.

The analysis and EIS will address "The Management of Competing and Unwanted Vegetation" for a wide variety of vegetation management situations in the Region. The following resource management activities will be analyzed: Timber Management; Rangeland Vegetation Management; Wildlife Habitat Management; Recreation Area/Trails Vegetation Management; Right-of-Way Vegetation Management; and Administrative Site Vegetation Management. Methods of accomplishing each activity to be analyzed will include manual and mechanical control, prescribed burning, biological and cultural control, and the use of chemical controls or herbicides.

For additional information on this effort in R-4

CONTACT: WARREN RIRIE (TEAM LEADER)

(801) 625-5255

FORESTRY ASSOCIATIONS OBJECT TO EPA'S ENDANGERED SPECIES PROTECTION PLAN

Objections to the Environmental Protection Agency's (EPA) Endangered Species Protection Plan (See "Short Subjects..." Issue Nos. 88-4 and 5) are increasing and include displeasure with the plan by two national forestry associations.

The National Forest Products Association and the American Forest Products Council urged EPA "not to implement a label-based nationwide system of 'no spray zones,' but rather to restrict the pesticide user from harming endangered species and place the responsibility on the pesticide user to determine where not to spray." The two associations also stated:

"Whether EPA implements the proposed program or adopts an alternative, there are three basic requirements which must be met for this program to be effective: (1) the decisions establishing potential risk to specific endangered species from specific pesticides must be valid and based on sound scientific data; (2) the information identifying the location of the 'potentially jeopardized' species must be accurate; and (3) EPA must communicate this information to the pesticide user in a manner which is timely and promotes the protection of endangered species. Until these requirements are met, no program will be effective.

The USDA, with input from the Forest Service (FS), also forwarded comments on the plan. Followup discussions between EPA and USDA have led us to believe that EPA will need considerable time to revise the initial program and more than likely will not implement any portion before the 1990 field season.

CONTACT: SHELLY WITT

(703) 235-8209

COMPUTERIZED TOXICOLOGY/RISK ASSESSMENT PROGRAM AVAILABLE

Clement Associates of Washington, D.C. and K.S. Crump of Ruston, Louisiana recently announced the availability of **Tox_Risk**, a computerized toxicology risk assessment program. **Tox_Risk** is a microcomputer menu-driven package for assessing risk to humans from chemical exposures, based on animal data. The program allows the user to concentrate on the data evaluation and scientific judgment critical to a risk assessment, because IT manages the data and calculations.

The **Tox_Risk** package performs basic statistical tests on laboratory animal dose-response relationships. It then extrapolates from animals to humans under a variety of dose-equivalent assumptions and user-specified human exposure patterns. **Tox_Risk** also manages bioassay data and provides standard animal and human parameters such as body weights, life spans, and food consumption rates, which are used in animal to human extrapolations.

Tox_Risk is user friendly and contains these features: Fill-in-the-blank forms; menu windows for selection of options; input validation; printing, copying, and deleting of data files from the program; and easy data modification.

Tox_Risk can be used with any IBM-compatible PC having MS DOS 3.0 or higher; 640K of RAM; a numerical co-processor chip; LOTUS 1-2-3, and a graphics board.

For a special limited time, **Tox_Risk** is available to educational institutions, non-profit organizations, and regulatory agencies for \$999.00; however, in consultation with K.S. Crump personnel, it has been determined that this program is probably not suitable for Forest Service use at this time. As an alternative, the FS is discussing with K. S. Crump and others, the opportunities for developing a computerized program that will meet agency needs.

For additional information

CONTACT: K. S. CRUMP AND CO.	(318) 255-4800
LARRY GROSS (FS)	(703) 235-8209

WATERLESS "PESTICIDE" HAND CLEANER ON THE MARKET

Spectrum Technologies, Inc., is advertising a new, special purpose, waterless "pesticide" hand cleaner. Designed to remove pesticide stains and residues along with dirt, grease and grime. Hand-Y-Kleen^R comes in a durable, portable 22-ounce tube. For a free trial sample of this product that promises to reduce pesticide exposures

CONTACT: SPECTRUM TECHNOLOGIES	(815) 436-4440
--------------------------------	----------------

4

NATIONAL PESTICIDE IN WELLWATER SURVEY

The U.S. Environmental Protection Agency (EPA) recently initiated two data collection efforts to characterize patterns of groundwater vulnerability to pesticide contamination. County information is being collected on the depth of water tables, soil properties, groundwater recharge rates, and the hydrogeologic makeup of aquifers. To determine county pesticide use and agricultural cropping patterns, EPA contracted with ICF, Inc. whose personnel will interview county agricultural extension agents. These interviews will focus on types of crops grown in each county, pesticide-use recommendations, spraying seasons, irrigation practices, and erosion problems. This information will in turn be used to select a representative sample of domestic wells to be sampled in selected counties.

The first round of domestic well sampling began in Mississippi in April. Thus far, sampling teams have encountered no major logistical or technical problems. Sampling will continue in other States and counties over different time periods in order to assure that seasonal variations in groundwater will not bias the results. Community water systems are also intended to be sampled for the survey.

For additional information and project updates

CONTACT: CONSTANCE HOHEISEL (EPA)

(703) 557-7499

U.S. PUSHES FOR HERBICIDE USE ON COCA

The United States State Department recently unveiled a plan to use the herbicide tebuthiuron (Spike^R) to eradicate thousands of acres of coca in Peru. Tebuthiuron is used widely in the U.S. to control woody vegetation on rangelands, but Eli Lilly, the company that makes and markets Spike^R through its Elanco Products Division is refusing to sell it to U.S. or Peruvian government officials for coca eradication. Coca is the plant whose leaves are processed into cocaine. The State Department believes aerial herbicide spraying is "the safest and most efficient way" to eradicate coca and stop or reduce illegal imports. It is estimated that as much as 50 percent of all cocaine entering the U.S. originates in the coca fields of the Huallaga Valley, Peru.

Eli Lilly spokespersons have said that because of "practical and policy considerations," they will not sell Spike^R for coca eradication since it has not been tested or registered for this purpose. There has been speculation that another reason for their refusal to sell the herbicide for this purpose is the potential for reprisals by drug traffickers against their U.S. and South American employees. In addition, Greenpeace USA has objected to the plan to use the herbicide citing that it would cause "serious environmental damage to the tropical ecosystem." Lilly, on the other hand, insists that their product is "safe for humans, livestock, and the environment when used according to label directions for approved purposes."

CONTACT: MR. TED MCKINNEY (ELI LILLY)

(317) 276-3655

RISK ASSESSMENT AND RISK COMMUNICATION

Recent research by the Roper Organization has verified what many persons involved with risk assessment and risk communication had already suspected--that the more dreaded or unknown the risk, the more the public wanted to see the risk reduced and subjected to strict regulation. The most dreaded risks (e.g., nuclear weapons and nuclear power) were characterized by perceived lack of control, catastrophic potential, fatal consequences, and inequitable risk and benefits. Unknown hazards (e.g., chemical technologies) were generally unobservable with the potential for harmful effects delayed in time.

This and other research has led to the identification of several factors that are key to how the public evaluates potential hazards. The list includes:

* Magnitude. People are more concerned about major accidents involving fatalities and injuries at one time, such as airline crashes, than the same number scattered over a longer time period, such as car accidents. They are more concerned about irreversible hazards, (e.g., nuclear war) than reversible ones (e.g., smoking). Risk to future generations increases concern.

* Evidence. Concern increases if a risk is poorly understood and scientifically unknown or if the effects are uncertain or delayed, such as development of cancer following exposure to low doses of chemicals. Human evidence is more persuasive than animal studies.

* Personal Choice. Voluntary risks are far more acceptable than imposed ones. Smoking began to move from acceptable to unacceptable in public places once there was evidence that sidestream smoke could be harmful to others. Risks under an individual's direct control are less threatening. Drivers may recognize the general risks of an accident but believe they can avoid one.

* "Not In My Back Yard." A risk that is closer to home is more upsetting than widespread risks shared by the general public. People are also more likely to question a potential hazard if they derive no benefit from it. Those living next to a nuclear waste site, for example, may not be the ones who originally benefitted from the nuclear power. When those at risk also benefit, the risk becomes more acceptable.

* Publicity. Media attention heightens concerns. News coverage often focuses on new health risks rather than old but important ones. Television makes risk even more real. Concern rises if children are at risk and if media coverage makes the victims identifiable.

* Source. Manmade hazards are less acceptable than natural ones. There has not been a mass exodus from California because of the threat of earthquakes.

In summary, risk has been defined by some as the "sum of hazard plus public outrage." The public pays too little attention to hazard; and experts often pay no attention to outrage. Not surprisingly, publics and experts rank risks differently.

To overcome this gap, risk communicators at Columbia University suggest that there are seven cardinal rules that must be followed by persons in the public and private sectors who are involved with risk communication:

Rule 1. Accept and involve the public as a legitimate partner.

A basic tenet of risk communication in a democracy is that people and communities have a right to participate in decisions that affect their lives, their property, and the things they value.

Rule 2. Plan carefully and evaluate your efforts.

Risk communication will be successful only if carefully planned.

Rule 3. Listen to the public's specific concerns.

If you do not listen to people, you cannot expect them to listen to you. Communication is a two-way activity.

Rule 4. Be honest, frank, and open.

In communicating risk information, trust and credibility are your most precious assets.

Rule 5. Coordinate and collaborate with other credible sources.

Allies can be effective in helping you communicate risk information.

Rule 6. Meet the needs of the media.

The media are a prime transmitter of information on risks; they play a critical role in setting agendas and in determining outcomes.

Rule 7. Speak carefully and with compassion.

Technical language and jargon are useful as professional shorthand, but they are barriers to successful communication with the public.

A more complete discussion of these factors and rules appears in two publications which will soon be sent as Advisory Memorandums. The publications are entitled "Risk Communication, Risk Statistics, and Risk Comparisons" from the Chemical Manufacturers Association and "Explaining Environmental Risk" from EPA. For additional information on how the FS does risk assessment/communication

SUPPRESSION PROJECT UPDATES

WESTERN SPRUCE BUDWORM: The western spruce budworm suppression project (See "Short Subjects..." Issue Nos. 88-4,7) in Oregon (R-6) is 66 percent complete as of June 28. Project operations were completed on the Meacham Unit on June 23. To date a total of 298,421 acres have been treated. An aircraft accident involving a fatality occurred on June 14. In this case a Huey UH1B application helicopter crashed on the Warm Springs Indian Reservation killing the pilot, Joel A. Swatash of Turlock, California. An incident occurred on June 26 when a Helijet 205 spraycraft hit a group of trees and was damaged. The pilot in this case was able to fly back to the base heliport without further problems. Both situations are under investigation.

CONTACT: BILL CIESLA (R-6) (503) 221-2727

DOUGLAS-FIR TUSSOCK MOTH: The Douglas-fir tussock moth suppression project (See "Short Subjects..." Issue No. 88-7) in California (R-5) was reported to be 85 percent complete with 4,230 acres treated as of June 28. The project, which is receiving technical support from the aerial application specialist in Davis, California, has gone smoothly and is expected to be complete this week.

CONTACT: JOHN NEISESS (R-5) (415) 556-6520

NATIONAL PESTICIDE CERTIFICATION AND TRAINING WORKSHOP SCHEDULED

The U.S. Environmental Protection Agency (EPA) is planning to host a National Pesticide Certification and Training Workshop March 28-30, 1989 in Denver, Colorado. The EPA plans to focus on a hands-on participatory type workshop with sessions that will cover a wide variety of pertinent topics (e.g., pesticide clean-up and disposal, groundwater models and strategies, endangered species, farmworker safety, and audiovisual equipment and other training materials.

For further information

CONTACT: ROB DENNY (202) 475-9581

PESTICIDE LABELING VIDEO

The National Pest Control Association (NPCA) recently finished the production of a videotape on pesticide labeling. The program is designed for pest control technicians and focuses on label comprehension. The video reviews label format, title and symbol identification, how to use directions, as well as some discussion on common applicator exposure and preventive measures.

The NPCA is now working on a study workbook to accompany the video. For purchasing information

CONTACT: NPCA (703) 573-8330

ENVIRONMENTAL INFORMATION CENTER

Personnel at the Environmental Protection Agency assigned to the "public/private sector initiative for pesticide certification and training" believe that the most important contribution to pesticide applicator training and education programs would be the development of an environmental information center. They propose that such a center be co-located with the National Agricultural Library (NAL) at Beltsville, Maryland. They recommend that the center should contain the repository of all environmental training materials and should be jointly supported by EPA, USDA, and the U.S. Department of the Interior. As a part of the collection, the NAL should house not only the pesticide applicator training materials generated by Federal agencies but also private sector educational and training resources. If you support this initiative or would like additional information

CONTACT: ROB DENNY (202) 475-9581

SHORT SUBJECTS INDEX

Copies of the cumulative index for topics discussed in "Short Subjects..." may be obtained at any time

CONTACT: DENNIS R. HAMEL (703) 235-8209
DG: D.HAMEL:W01B

END

**SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS**

June 10, 1988

IN THIS ISSUE

Based on responses received on the feedback requested in Issue No. 6 of "Short Subjects..." it appears that most readers could benefit from a list of topics discussed in each issue and a quarterly or semi-annual index of topics. Therefore, beginning with this issue we will provide a Table of Contents for quick reference. In addition, we have included a mid-year Index of all subjects covered thus far in 1988. In the future, if you wish an up-to-date index prior to one being issued formally

CONTACT: DENNIS R. HAMEL
EDITOR

DG: D.HAMEL:W01B
(703) 235-8209

TABLE OF CONTENTS

<u>Topic</u>	<u>Page Number(s)</u>
Pesticide Monitoring Inventory	1
Western Spruce Budworm Suppression	2
Verbenone Experimental Use Permits	2
Gypsy Moth Suppression Projects	3
Douglas-fir Tussock Moth Pilot Project	4
Spray Nozzle Handbook	4
Northwest Coalition for Alternatives to Pesticides (NCAP)	5
Spray Deposit Assessment	6
Integrated Risk Information System (IRIS)	6
Cancer Risk Assessment	7
DFTM Virus Processing Contract	7
Index of 1988 "Short Subjects..." Issues to Date	8

PESTICIDE MONITORING INVENTORY

The USDA Forest Service (FS) has been invited by the U.S. Environmental Protection Agency (EPA) to participate in a joint effort to improve pesticide monitoring in the U.S. As a part of this effort, EPA has established a database called the Pesticide Monitoring Inventory. It is a summary of monitoring projects being conducted by Federal, State, and local governments and private institutions. Access to the database, which contains a short synopsis of each project, is free. The inventory also provides a network by which interested persons may communicate and share monitoring

CONTACT: CONSTANCE HOHEISEL (EPA) (703) 557-7499

WESTERN SPRUCE BUDWORM PROJECT UNDERWAY

Last winter the USDA Forest Service (FS) conducted an environmental analysis of a western spruce budworm (WSBW) infestation in Oregon. The results of the analysis indicated a strong need for pest suppression. As a result, the FS, the Bureau of Land Management, the Bureau of Indian Affairs, and the Oregon Department of Forestry began planning to treat approximately 700,000 acres of WSBW-infested Federal, State, and private forest lands during June and July. It was also determined at that time that the pesticide of choice was the biological insecticide **Bacillus thuringiensis** (Bt).

Because of the size and complexity of the 1988 WSBW control project (one of the largest spray operations undertaken in recent years in the U.S.), it was divided into five units (Meacham, Tollgate, Barlow, the Dalles, and Warm Springs). To treat these units it is expected that as many as 150 aircraft, 600 support personnel, and numerous pieces of electronic data processing equipment will be used. The Bt formulations to be used on the project are Thuricide^R 32LV and 48LV and Dipel^R 6L and 6AF.

At press time the WSBW project was underway but with less than one percent (4,574 acres) of the project complete. For followup information

CONTACT: BILL CIESLA

(503) 221-2727

VERBENONE EXPERIMENTAL USE PERMITS GRANTED

The USDA Forest Service (FS) was advised by the U.S. Environmental Protection Agency (EPA) on June 2 that two experimental use permits (EUP) had been granted to PheroTech, Inc. of Vancouver, British Columbia, Canada. The granting of these EUP's will allow the FS to proceed with its plans to cooperate with PheroTech personnel in the field testing of verbenone to evaluate its use as an operational tool in the management of the mountain pine beetle (MPB) in Montana, Colorado, Oregon, and Utah.

PheroTech's verbenone has been formulated into two products (beads and bubble caps) that when deployed are expected to serve as MPB antiaggregation pheromones. The EUP's for these products have been given the EPA numbers 56261-EUP-1 and 56261-EUP-2 respectively.

Under existing EPA regulations, PheroTech had allowed sufficient time (3 months) for the EUP proposals to be processed; however, in the future EPA requests a 6 month lead time. The additional time has been necessitated by the increased workload at EPA relative to genetically engineered products that also require EUP's.

For additional information on the 1988 field tests of verbenone

CONTACT: GENE AMMAN

(801) 625-5393

GYPSY MOTH SUPPRESSION PROJECTS NEARLY COMPLETE

With the exception of Michigan and Virginia, all States in this year's cooperative gypsy moth suppression effort have completed their treatments. Michigan is only about 50 percent complete while Virginia, as of June 8 was 85 percent complete. A total of 741,927 acres have been treated to date. The following table summarizes locations and pesticides used thus far:

SUMMARY GYPSY MOTH SUPPRESSION

Location	Pesticide Used	Acres Treated
<u>Northeastern Area</u>		
Allegheny National Forest	Bacillus thuringiensis (Bt)	6,174
Arlington National Cemetery	Bt	501
C&O Canal	Bt	545
Catoctin National Park	Bt	2,308
District of Columbia	Bt	4,500
Delaware	30% Bt; 70% Dimilin	43,207
G. Washington National Forest	38% Bt; 62% Dimilin	11,734
Gettysburg National Park	Bt	343
G. Washington Parkway	Bt	140
Harpers Ferry	Bt	652
Maryland	30% Bt; 70% Dimilin	165,631
Michigan	Bt	23,316
New Jersey (Agriculture)	Bt	11,830
New Jersey (Forestry)	Bt	2,175
Pennsylvania	51% Bt; 49% Dimilin	217,743
Raystown Lake (Pa.)	56% Bt; 44% Dimilin	1,432
Rock Creek Park (DC)	Bt	841
Seneca Indian Reservation (NY)	Bt	2,140
Virginia	25% Bt; 75% Dimilin	94,216
West Virginia	Dimilin	139,124
	Total	<u>729,102</u>

Southeastern Region (R-8)

Nantahala National Forest	Bt	6,390
Jefferson National Forest	Dimilin	6,435
	Total	<u>12,825</u>
Grand Total		741,927

Sixty-four percent (477,855 acres) of the 1988 treatments have been with diflubenzuron or Dimilin^R. Thirty-five percent of the treatments have been with *Bacillus thuringiensis*. For additional information on the cooperative gypsy moth suppression effort

4

DOUGLAS-FIR TUSSOCK MOTH PILOT PROJECT PLANNED FOR CALIFORNIA

In 1987 about 5,700 acres of Douglas-fir tussock moth (DFTM) defoliation was detected on white fir in northern California on the Plumas and Lassen National Forests and adjacent private lands. This followed a general increase in adult moth pheromone trap catches that began in 1984. The Plumas National Forest conducted an environmental analysis and a decision was made in early April to implement a combined pilot project/field experiment to reduce unacceptable DFTM-related impacts to forest resources and provide needed efficacy data on new *Bacillus thuringiensis* formulations to improve future DFTM pest management options.

The objective of the project will be to evaluate the efficacy of Thuricide^R 32LV aqueous concentrate applied at a dosage rate of 40 BIU's/hectare (16 BIU's/ac) at two dilution rates: 1) undiluted at 4.7 liters/ha (64 oz./ac.) and 2) diluted 1:1 with water at 9.4 liters/ha (128 oz./ac.). Efficacy will be measured in terms of: a) population reduction, and b) resource damage reduction/prevention. Five replicates (15 plots) will be established for each treatment. A total of 5,000 acres will be sprayed, with about half the area assigned to each Bt treatment. Cooperators in the project include the Plumas and Lassen National Forests, the Pacific Northwest Research Station, Forestry Sciences Laboratory, Corvallis, Oregon, and Forest Pest Management, R-5. Private land owners providing written authorization will also be included in the project.

Unseasonably cool and variable weather in California this spring has slowed both DFTM and host development; however, it appears that treatment will take place in late June or early July. Laboratory analysis of larvae reared from egg masses collected in both the fall of 1987 and spring of 1988 indicate low levels of virus throughout most of the infestation area.

For additional information on this project or future plans to use Bt or the Forest Service-registered virus (TM Biocontrol-1)

CONTACT: DR. JOHN NEISESS

(415) 556-6520

SPRAY NOZZLE HANDBOOK AVAILABLE

Spraying System Company recently published a handy information brochure on spray nozzles. The maintenance handbook will help pesticide users determine when their pesticide spray nozzles are operating properly. The handbook also covers such areas as: what you should expect from spray nozzles, how to get the most performance, common application problems, detecting nozzle problems, problem prevention, and nozzle replacement.

If you would like a copy of this handbook

CONTACT: MS. RUTH L. BOURAS

(312) 665-5000

ENVIRONMENTAL GROUP PRAISES AGENCY EFFORTS

It is not often that environmental groups generally opposed to the use of pesticides provide positive feedback to the Forest Service; however, the following letter was recently sent to Chief Robertson from Ms. Norma Grier, Director of the Northwest Coalition for Alternatives to Pesticides (NCAP). This letter reflects well on Region 6, as well as the agency overall, in its efforts to improve scoping and public involvement. Ms. Grier wrote:

"I am writing you to reiterate the Northwest Coalition for Alternatives to Pesticide's (NCAP) support for the process undertaken by Region 6 Forest Service in the development of the Vegetation Management Environmental Impact Statement (EIS).

Region 6 has worked closely with both agency personnel and the interested public in a two year process to develop this EIS. The National Environmental Policy Act (NEPA) has been followed according to the letter and the spirit of the law. Interested parties have been invited and had ample opportunity to get involved at numerous steps along the way.

NCAP has found this process to be challenging and educational. We have worked hard to make input to the interdisciplinary team that is timely, substantive, and feasible for consideration. Not all of our input has been incorporated into the EIS, but our experience has been that the team has done a good job of considering our information and making reasoned decisions.

There has been much positive change and development surrounding this issue in this region. After a frustrating decade of experiencing the Forest Service use (of) the NEPA process to rubberstamp existing decisions and disregard the valid public concerns that were being raised about the use of pesticides in forest pest management, it has been a pleasure to participate in the development of this EIS.

Forest Service should use the Region 6 model in other regions and in developing other programs. The process has been exemplary and undoubtedly the product will be impressive. It is a process in which the Forest Service should be proud."

For additional information on Region 6 efforts

CONTACT: MR. GARY LARSEN

FTS: 423-2727

SPRAY DEPOSIT ASSESSMENT TO BE CONDUCTED USING USAF C-130 AIRCRAFT

The USDA Forest Service (FS) has been asked to assist the U.S. Airforce (USAF) in testing a MASS AERIAL SPRAY SYSTEM at Avon Park, Florida during June. Jack Barry, National Pesticide Aerial Application Specialist, will evaluate the low volume and high volume application characteristics of MASS. The evaluation will be based on the spray deposit sampling results obtained during the Avon Park trials using USAF C-130 spray aircraft.

Assessing spray deposit sampling results in the field during conduct of the test has several advantages. For example, field results give the test director immediate feedback as to the extent the test objectives are being met. They also assist in monitoring the adequacy of the test design, its procedures, and they provide an early warning that may avert test failure. Testing done without oversight in the field often produces poor data. Monitoring therefore is an essential element of field testing.

Other advantages of on-site monitoring of spray deposition include an early start on data analyses while manpower is available and while there is keen interest in results. Experience also has shown that the quality of the test documentation is higher if data analyses begins in the field.

For additional information on the procedures to be used to count and size the spray drops from C-130 aircraft in the field during the referenced spray trials

CONTACT: JACK BARRY

(415) 460-1715

INTEGRATED RISK INFORMATION SYSTEM AVAILABLE FROM EPA

The U.S. Environmental Protection Agency (EPA) announced the availability of an Integrated Risk Information System (IRIS) in the June 2 issue of the Federal Register (Vol. 53, No. 106, pp. 20162-4). EPA's IRIS is an electronic on-line database that provides risk assessment and regulatory information on chemical substances. IRIS is a primary source of EPA health hazard assessment and related information on chemicals of environmental concern. It is intended to serve as a guide for the hazard and dose-response assessment steps of EPA assessments; however, it may also benefit others doing risk assessments that are not regulatory in nature. IRIS was created in response to requests for Agency risk information; its purpose is to provide a vehicle for the communication of chemical-specific information necessary to develop EPA risk assessments.

Information in IRIS is intended for users without extensive training in toxicology, but with some knowledge of health science. Therefore, IRIS is not an exhaustive toxicological database, nor a risk assessment methodology resource. IRIS presents summaries of hazard and dose-response assessments, reference citations, and EPA contacts for further information. A more detailed breakdown of IRIS is contained in the Federal Register reference provided. For additional information

CONTACT: IRIS USER SUPPORT

(513) 569-7254

CANCER RISK ASSESSMENT

At a recent meeting of the American Association for the Advancement of Science, Dr. Peter W. Preuss, Director of the U.S. Environmental Protection Agency's Office of Technology Transfer and Regulatory Support, presented an overview of the evolution of risk assessment and its current status in regulatory policy making. During his presentation, Dr. Preuss stressed the "need to understand where the carcinogens are in the environment and to deal with risks that are of significance when addressing public health." Dr. Preuss made the following additional points:

--The risk assessment process has changed and evolved over the last decade. For example, we now use more biological data.

--There is a need to convey risk assessments to risk managers in a way that better expresses the uncertainties inherent in the risk assessment process and some of the ways those uncertainties express themselves.

Examples of the possible modifications that might be incorporated into current risk assessment methodologies presented by Dr. Preuss included:

--Assuming exposure at 2-16 hours per day for 10-35 years, in addition to the current 24 hours a day for 70 years.

--Relying on only malignant cancer rates, rather than weighting benign and malignant tumors equally.

--Using average potency, calculated from experiments on a variety of animal strains rather than only the most sensitive species.

For additional information on risk assessments and how EPA activities relate to forest pest management programs

CONTACT: ZDENKA HORAKOVA

(703) 235-8209

DFTM VIRUS PROCESSING CONTRACT AWARDED

Espro, Incorporated of Columbia, Maryland was notified June 10 that they were the successful bidder on the Forest Service's (FS) request for proposals to process and convert 200 kilograms (kg) of Douglas-fir tussock moth (DFTM) cadavers into the FS-registered product TM Biocontrol-1.

The Forest Service has been producing virus-infected DFTM larvae at its Corvallis, Oregon virus production facility and the agency currently has 825 kg (1,815 pounds) of cadavers ready for processing. The contract awarded to Espro will be phase one of a three-phase effort to process this material into about 111,000-115,000 acre equivalents of biological insecticide.

The contracting officer's representative for this effort is Region 6's pesticide coordinator

CONTACT: GARY LARSEN

(503) 221-2727

SHORT SUBJECTS INDEX

KEYWORD OR SUBJECT AREA	ISSUE NO.
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	88-5
2,4,5-T	88-3,5
2,4-D	88-3,5
3PF	88-4
ACEPHATE	88-5
ACID RAIN	88-1
ADVANCED TECHNOLOGY IN NATURAL RESOURCE MANAGEMENT	88-5
AERIAL SPRAY	88-7
AGDISP	88-1,2
AGENT ORANGE	88-5
AGRICULTURAL RESEARCH INSTITUTE	88-3
AMERICAN CHEMICAL SOCIETY	88-1
ANIMAL DAMAGE CONTROL	88-4
ANTIAGGREGATION PHEROMONES	88-3,7
ARTIFICIAL INTELLIGENCE WORKSHOP	88-1
AZADIRACHTIN	88-3
BACILLUS THURINGIENSIS (BT)	88-1,4,5,7
BARK BEETLE SEMIOCHEMICALS	88-1,7
BARK TREATMENT	88-4
BEHAVIOR OF PESTICIDES IN THE FOREST ENVIRONMENT	88-1
BIOLOGICAL PESTICIDES	88-4,7
BIOTECHNOLOGY	88-1,2
BIOTECHNOLOGY INFORMATION CENTER	88-4
BIOTECHNOLOGY POLICY CENTER	88-3
BIOTECHNOLOGY SYMPOSIUM SLATED	88-4
BLM NOXIOUS WEED EIS	88-5
BT BIOBURDEN	88-5
BUDWORM SPRAY PROJECT (R-6)	88-1,7
BUFFER ZONE REGULATIONS	88-3
BUFFER ZONES IN PROPOSITION 65 FOREST INSECT CONTROL	88-3
C-130 AIRCRAFT	88-7
CALIFORNIA	88-4,7
CANADA/UNITED STATES MPB PROGRAM	88-5
CANADIAN HERBICIDE SPECIALISTS	88-6
CARBARYL	88-6
CARCINOGENIC RISK	88-6,7
CATEGORY "D" PESTICIDE	88-5
CHEMICAL INFORMATION SYSTEM	88-1
CHEMICAL RISK	88-1,7
CHITIN: AN SYNTHETIC NEMATICIDE	88-1
CHOLINESTERASE MONITORING	88-1
COMMERCE BUSINESS DAILY	88-4
COMPUTER-ASSISTED DECISIONMAKING AIDS	88-1
COOPERATIVE AGREEMENTS	88-3,7
COORDINATED RESEARCH ON ALTERNATIVE FORESTRY	88-4
DALAPON	88-1
DE MINIMIS DOCTRINE	88-6
DELANEY CLAUSE	88-6
DFTM LARVAE	88-4,7
DICOFOL	88-6

KEYWORD OR SUBJECT AREA	ISSUE NO.
DIFLUBENZURON (DIMILIN)	88-3,5,7
DIMILIN	88-3,5,7
DISPOSABLE COVERALLS	88-3
DOUGLAS-FIR TUSSOCK MOTH	88-4,7
EASTERN SPRUCE BUDWORM COUNCIL	88-3
EMERGENCY EDUCATION NETWORK (EENET)	88-4
ENDANGERED SPECIES	88-1,2
ENDANGERED SPECIES PROTECTION PLAN PROGRAM	88-4,5
ENVIRONMENTAL DOCUMENT WRITING	88-3
ENVIRONMENTAL ECONOMICS RESEARCH	88-3
ENVIRONMENTAL RISK COMMUNICATION RESEARCH	88-3
EPA	88-3,4,5,7
EPA'S ENDANGERED SPECIES PROTECTION PROGRAM	88-4,5
EXPERIMENTAL USE PERMITS	88-7
EYEWASH BOTTLE	88-3
EYEWASH BOTTLES CARRYING CASE	88-3
FARMWORKER PROTECTION RULE	88-1
FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)	88-4
FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOL.	88-4
FIELD EXPERIMENTS	88-7
FIFRA	88-1,3
FOOD, DRUG, AND COSMETIC ACT	88-6
FOREST NURSERY ENVIRONMENTAL IMPACT STATEMENT	88-6
FOREST WORKERS	88-1
FORMALDEHYDE	88-6
FSCBG II	88-1
GROUNDWATER	88-1,4
GROUNDWATER CONTAMINATION BY PESTICIDES	88-4
GROUNDWATER POLLUTION PREVENTION	88-4
GYPSY MOTH CONTROL	88-5,7
H.R. 2463	88-1
HAZARDOUS MATERIALS COMPLIANCE AND ENFORCEMENT COURSE	88-5
HAZARDOUS MATERIALS VIDEOCOURSE TO BE OFFERED	88-4
HAZARDOUS WASTE MANAGEMENT	88-1
HERBICIDE SHORTCOURSE (PURDUE)	88-6
HUMAN EXPOSURE TO PHENOXY HERBICIDES	88-3,5
INERT INGREDIENTS	88-6
INSECT WORK CONFERENCE	88-1
INTEGRATED PEST MANAGEMENT	88-1
INTEGRATED RISK INFORMATION SYSTEM (IRIS)	88-7
INTERNATIONAL SYMPOSIUM ON CHEMICAL MIXTURES	88-5
IPM IN AGROFORESTRY	88-1
KELTHANE	88-6
LABORATORY CHEMICAL MANAGEMENT FOR WASTE REDUCTION	88-1
LEACHING POTENTIAL	88-4
LIFE-THREATENING BIRTH DEFECTS	88-1
MALATHION	88-1
MANAGING THE NEPA PROCESS	88-3
MANAGING VEGETATION WITH CHEMICALS	88-5
MARGOSAN-O	88-3

KEYWORD OR SUBJECT AREA	ISSUE NO.
MASK-IT	88-4
MASS AERIAL SPRAY SYSTEM	88-7
MATERIAL SAFETY DATA SHEETS	88-1
MCH	88-3
MICROBIAL PEST CONTROL AGENTS	88-1,7
MITICIDE	88-6
MONOGRAPH ON PHENOXY HERBICIDES	88-3
MOUNTAIN PINE BEETLE	88-5,7
NORTHWEST COALITION FOR ALTERNATIVES TO PESTICIDES	88-7
NATIONAL ADVANCED PESTICIDE MANAGEMENT TRAINING COURSE	88-6
NATIONAL AGRICULTURAL LIBRARY	88-4
NATIONAL CANCER INSTITUTE (NCI)	88-5
NATIONAL HEALTH AND SAFETY AWARD	88-3
NATIONAL INSTITUTE OF BUILDING SCIENCES WOOD PROTECTION	88-3
NATIONAL NAPIAP MEETING	88-6
NATIONAL PESTICIDE INFORMATION RETRIEVAL SYSTEM (NPIRS)	88-1
NATIONAL TECHNICAL INFORMATION SYSTEM (NTIS)	88-6
NATIONAL WILDLIFE FEDERATION	88-3
NATURAL PESTICIDES	88-3
NEEM TREE	88-3
NEMATODES	88-3
NEPA AND THE APPEAL PROCESS	88-3,7
NEPA WORKSHOP	88-3
NOLO BAIT	88-3
NON-HODGKINS LYMPHOMA	88-5
NON-INDIGENOUS MICROBIAL PESTICIDES	88-6
NORTHEAST FOREST INSECT CONFERENCE	88-1
NOSEMA LOCUSTAE	88-3
NOXIOUS WEEDS	88-5
NURSERY EIS	88-1
OSHA HAZARD COMMUNICATION STANDARD	88-1
PERSISTENCE OF DIFLUBENZURON (DIMILIN)	88-3
PEST MANAGEMENT POSITIONS	88-6
PESTICIDE APPLICATION TECHNOLOGY MEETING	88-3
PESTICIDE ASSESSMENT GUIDELINES	88-1,6
PESTICIDE ODORS	88-4
PESTICIDE PROGRAM IN THE SOUTH	88-4
PESTICIDE PUBLIC POLICY FOUNDATION	88-4
PESTICIDE TREATMENT AREA SIGNS	88-6
PESTICIDE USER PRODUCTS	88-3
PESTICIDE VIDEOTAPE	88-1
PESTICIDES AND POLITICS: THE LIFE CYCLE OF A PUBLIC ISS	88-3
PHENOXY HERBICIDES	88-3,5
pheromones	88-3,7
PHEROTECH, INC.	88-7
PILOT CONTROL	88-4,7
PR NOTICES	88-1
PROPOSITION 65	88-4
PUBLIC ATTITUDES TOWARD ANIMAL DAMAGE CONTROL	88-4
RAY-GUN INSECTICIDE	88-1

KEYWORD OR SUBJECT AREA	ISSUE NO.
RCRA AND LABORATORIES	88-1
REDUCING UNCERTAINTY IN ENVIRONMENTAL RISK ASSESSMENTS	88-4
REENTRY	88-1
REGISTRATION STANDARD	88-5
REGULATION OF PESTICIDES: SCIENCE, LAW, AND THE MEDIA	88-5
REQUEST FOR PROPOSALS	88-4
RESOURCE TECHNOLOGY 88	88-5
REVIEW OF PESTICIDE-USE MANAGEMENT AND COORDINATION	88-4
REVIEW OF R-9	88-6
RISK ASSESSMENT AND MANAGEMENT	88-4, 7
S. 1516	88-1
SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT	88-4
SEEDBED ORCHARDS	88-1
SEMOCHMICAL WORKSHOP	88-1, 2
SEVESO, ITALY	88-5
SHORT SUBJECTS INDEX	88-6, 7
SOCIETY OF ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY(SETAC)	88-4
SOUTHERN REGION PESTICIDE REVIEW	88-4
SPECIAL REVIEW OF 2,4-D	88-5
SPRAY DEPOSIT ASSESSMENT	88-7
SPRAY NOZZLE HANDBOOK	88-7
STARCH-ENCAPSULATED PESTICIDES	88-3
STATEMENT OF WORK	88-4
STRYCHNINE	88-5
SUBDIVISION M REGISTRATION GUIDELINES	88-1
TCDD	88-5
THINLINE	88-4
TM BIOCONTROL-1	88-4, 7
TOXICOLOGICAL DATABASE	88-7
TRAINING OPPORTUNITY	88-6
TREATMENT AND SYSTEMS	88-4
TRICLOPYR	88-4
VEGETATION MANAGEMENT ENVIRONMENTAL IMPACT STATEMENT	88-5
VEGETATION MANAGEMENT FOR THE APPALACHIAN MOUNTAINS	88-5
VERBENONE	88-3, 7
VERTEBRATE PEST CONFERENCE	88-4
VERTEBRATE PEST COUNCIL	88-4
VIRUS PRODUCTION	88-7
WESTERN BARK BEETLE SEMIOCHMICAL	88-1
WESTERN SPRUCE BUDWORM	88-1, 4, 7
WILDLIFE DAMAGE	88-1
WOOD PROTECTION WORKSHOP	88-3
WORKGROUP ON AGRICULTURAL CHEMICALS AND THE ENVIRONMENT	88-5

CEO_FORMATTER Warning

Value for lines per page is larger than papersize. A smaller value is used.
Error occured on page 8 line 2.

CEO_FORMATTER Warning

Value for lines per page is larger than papersize. A smaller value is used.
Error occured on page 8 line 2.

CEO_FORMATTER Warning

Value for lines per page is larger than papersize. A smaller value is used.
Error occured on page 9 line 2.

CEO_FORMATTER Warning

Value for lines per page is larger than papersize. A smaller value is used.
Error occured on page 10 line 2.

CEO_FORMATTER Warning

Value for lines per page is larger than papersize. A smaller value is used.
Error occured on page 11 line 2.

MESSAGE SCAN

TO PEST NEWS

From: Dennis R. Hamel:W01B
Postmark: May 27,88 12:35 PM
Status: Certified Previously read
Subject: SHORT SUBJECTS NEWSLETTER

Comments:
SEE REPONSES NEEDED FROM PAGE 8

-----X-----

SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS

May 27, 1988

DELANEY CLAUSE UPHELD

In 1960, the U. S. Congress, and the public in general were alarmed about the risk of cancer. This concern resulted in a focusing on substances with the potential to increase cancer and a willingness to take extreme steps to lessen even small risks. Congress hoped to reduce the incidence of cancer by banning additives to food and cosmetics that were deemed carcinogenic (cancer causing). They did this by passing the Delaney Clause, an amendment to the Food, Drug, and Cosmetic Act.

The Delaney Clause was a significant piece of legislation, and with the advent of advanced technology that increases our ability to detect both natural and synthetic carcinogens the clause has proven somewhat problematical. But, attempts to amend or redefine the Delaney Clause have been in vain. For example, a recent Federal appeals court was asked to decide whether the Clause is subject to an implicit "de minimis" exception.

The case had grown out of a 1986 Food and Drug Administration (FDA) decision to approve the use of two cosmetic dyes that had been shown to be carcinogenic--although minimally. For example, one of the dyes would have increased the lifetime risk of human cancer to one in 19 billion, the other one in 9 million. For comparison, it was offered in the case that "the risk of a human getting cancer from the less carcinogenic of the two dyes he/she would have to be exposed to more than 40 million chemicals to reach one one-hundredth the health risk involved in cigarette smoking." FDA argued further that it had authority under the "de minimis doctrine" to approve the dyes, but their decision was challenged by Public Citizen, a consumer advocacy group.

"De minimis" is shorthand for *de minimis non curat lex*--"the law does not concern itself with trifles." FDA argued that the minor cancer risk associated with the dyes would amount to "concerning itself with trifles." A U.S. Court of Appeals panel for the District of Columbia agreed that the risks were trivial but reluctantly went on to say that the Delaney Clause lacked an implicit "de minimis" exception. Therefore, we continue to be straddled with an extraordinarily rigid amendment to a law designed to protect human health and safety but which in some instances has the potential to actually increase risk by disallowing the use of important pesticides, food additives, and preservatives--ones with only minimal potential to increase carcinogenic risk.

For further information on the Delaney Clause and the court's rejection of the "de minimis" exception

CONTACT: ZDENKA HORAKOVA

(703) 235-8209

CANADIAN HERBICIDE SPECIALISTS VISIT U.S.

During the week of May 16-20, two Canadian research scientists visited the U.S. to interact with USDA Forest Service herbicide specialists. Dr. Phil Reynolds and Mr. Doug Pitt, herbicide research scientists at the Forest Pest Management Institute, Sault Ste. Marie, Ontario, visited with U.S. herbicide specialists Larry Gross (Washington Office) and Max Williamson (R-8) in Georgia and Alabama. In addition to exchanging information on overall vegetation management, the group observed new herbicide application techniques and responses of undesirable vegetation to several new herbicides. The group viewed study plots and applicators applying herbicides on the Chattahoochee National Forest in Georgia and the Talladega National Forest in Alabama. A day was also spent visiting researchers and study plots at the Forest Service's Andrews Forest Science Laboratory and the Auburn University Silvicultural Herbicide Cooperative in Auburn, Alabama.

As a followup to this technology transfer trip, the Canadians have requested that the USDA Forest Service further cooperate with them to help install a set of study plots in Canada using the application techniques observed in the southeastern U.S. For additional information

CONTACT: MAX WILLIAMSON (R-8) (404) 347-2229
LARRY GROSS (WO) (703) 235-8209

FOREST NURSERY ENVIRONMENTAL IMPACT STATEMENT UPDATE

The Pacific Northwest Region (R-6) of the USDA Forest Service is home to three tree nurseries and one tree improvement center. Included are the Wind River Nursery in Carson, Washington; the Bend Pine Nursery in Bend, Oregon; the J. Herbert Stone Nursery in Medford, Oregon; and the Dorena Tree Improvement Center in Cottage Grove, Oregon. The Region and these units are cooperating in a reevaluation of methods used for controlling unwanted plants (weeds), insects, diseases, and animal damage. They are currently preparing an environmental impact statement (EIS) in which several pest management alternatives will be outlined.

The Interdisciplinary Team of specialists writing the EIS wants to keep everyone informed and they are distributing a newsletter that tells "Where They Are In the Process," "Where They are Going," and "Who They Are."

For more information on the Forest Nursery EIS, or to be placed on their newsletter mailing list

CONTACT: GEORGE MATEJKO (503) 294-7755

NOMINATIONS NEEDED FOR NATIONAL ADVANCED PESTICIDE MANAGEMENT TRAINING COURSE

A National Advanced Pesticide Management Training (NAPMT) course, sponsored by the Forest Service Forest Pest Management staff and the National Advanced Resource Technology Center (NARTC), will be held at Pinal Air Park, Marana, Arizona, February 21-March 3, 1989. A call letter with brochure will be sent shortly and nominations are due November 1, 1988.

The purpose of the NAPMT course will be to follow up on initial training provided at NARTC in 1986. The objective of this course will be to further train and develop a cadre of personnel who can provide other Forest Service personnel, proper guidance in designing and implementing quality pesticide projects using state of the art technology.

The 50-hour course has been designed to prepare silviculturists, range conservationists, entomologists, pesticide coordinators, project managers, and others to further train their peers in the proper use of pesticides. Priority for selections to attend this course will be given to Forest Service personnel whose current or anticipated assignments involve responsibilities for coordinating and managing pesticide-use training and pesticide projects; however, other interested persons are also encouraged to submit nominations through appropriate channels. Some State and other Federal agency personnel can also be nominated for the course.

If you are interested in this training opportunity and want additional information

CONTACT: DIRECTOR OF NARTC

(602) 629-6414

INERT INGREDIENTS UPDATE

An inert ingredient is defined as any intentionally added ingredient in a pesticide which is not itself pesticidally active. The U.S. Environmental Protection Agency (EPA) encourages the use of pesticide formulations containing the least toxic inert ingredient (See *Federal Register* Vol. 52, No. 77, pp. 13305-9). The Forest Service (FS) supports this policy and has recommended that certain pesticides that contain inerts of toxicological concern not be used (See FS letter of January 29, File Designation 2150).

Formaldehyde is an ingredient of toxicological concern that occurs as an "inert" in several forestry-use pesticide products. For example, Sevin^R XLR Plus, a carbaryl-based insecticide contains small amounts of formaldehyde. However, the FS has been advised by the manufacturer (Rhone-Poulenc) that formaldehyde is being replaced and all products containing this inert will be withdrawn by the 1989 use season.

For additional information about inerts or Sevin^R XLR Plus

CONTACT: LARRY GROSS (FS)
LIZBETH HUCKABA (RHONE-POULENC)

(703) 235-8209
(919) 549-2787

PESTICIDE ASSESSMENT GUIDELINE UPDATES

The U.S. Environmental Protection Agency (EPA) has prepared and is making available through the National Technical Information System (NTIS) several addenda to their Pesticide Assessment Guidelines. The study guidelines that have been updated include those for: Eye irritation, dermal irritation, dermal sensitization, acute and subchronic delayed neurotoxicity, hydrolysis, photolysis, aerobic soil metabolism, and leaching, adsorption, and desorption. While these guidelines are not mandatory, data submitters are strongly encouraged to follow the formats so that inputs to EPA will be consistent, thereby increasing the efficiency of the pesticide registration/reregistration process. The hardcopy prices for the addenda range from \$9.95 to \$12.95. A \$3.00 handling charge will also be assessed on each order. To order copies of the new guidelines

CONTACT: NTIS ORDER DESK (703) 487-4650

NOTIFICATION REQUIREMENTS FOR NON-INDIGENOUS MICROBIAL PESTICIDES

Cooperating scientists in the USDA Forest Service and the Agricultural Research Service recently requested clarification of EPA's notification requirements for release of non-indigenous microbial organisms. The clarification was needed because of a plan to use microsporidia from Czechoslovakia as a biological insecticide against the gypsy moth in Maryland this spring. Clarification was provided and the guidelines suggested by EPA should be useful to others who anticipate releasing other exotic organisms against pest insects.

Basically, EPA indicated that since many non-indigenous microorganisms are subject to quarantine and/or permitting requirements administered by the USDA Animal and Plant Health Inspection Service, they wished to minimize their notification requirements. Therefore, where there has been prior review and permitting at the Federal level, EPA only requires the:

1. Identity of the microorganism, e.g., complete taxonomic characterization;
2. Geographic location and description of the natural habitat from which the microorganism was isolated;
3. Host range of the microorganism;
4. Description of the proposed testing program, including site location (State and county), crop to be treated, target pest, amount of material to be applied, and method of application and,
5. Verification that the microorganism was subject to USDA/APHIS regulations and that the necessary permits were obtained. Should you have questions regarding non-indigenous microorganisms

CONTACT: PHIL HUTTON (EPA) (703) 557-2690
MIKE McMANUS (FS) (203) 645-2458
RALPH WEBB (ARS) (301) 344-2269

HERBICIDE ACTION

"Herbicide Action" is the title of an intensive course being offered at Purdue University on the activity, selectivity, behavior, and fate of herbicides in plants and soil. The course is being offered twice in 1988 (November 6-11 and November 13-18). The course should be of value to those working with agricultural chemicals in a variety of research and application situations. For example, the subjects to be covered include:

1. Introduction to herbicides.
2. Principles of Selective Weed control.
3. Penetration of foliar-applied herbicides.
4. Translocation of herbicides.
5. Uptake of herbicides from the soil.
6. Classification of herbicides by type of action.
7. Mode of Action, characteristics, structure-activity relationships, uses, selectivity, bioassay methods, and metabolism of herbicides.
8. Herbicide antidotes.
9. Defoliants and desiccants.
10. Effect of stage of growth on injury from herbicides.
11. Weed-crop competition.
12. Integrated weed management and long term effects of herbicide use.
13. Behavior of herbicides in soil.
14. Herbicides and groundwater.
15. Herbicide combinations and interactions.
16. Trends in herbicide application.
17. Diagnosis of herbicide injury.
18. Herbicides and reduced tillage.
19. New ideas for weed control.

The conference, which is being sponsored in part by Purdue University, Department of Forestry and Natural Resources, will be held on campus at the Stewart Center. For additional information

CONTACT: G.F. WARREN (PURDUE) (317) 463-1130

NATIONAL NAPIAP MEETING

A national meeting of the National Agricultural Pesticide Impact Assessment Program (NAPIAP) is planned to be held August 2-4 in Washington, D. C.

The purpose of the meeting is for State Liaison Representatives, Regional Coordinators, and Federal agency advisors to convene to discuss NAPIAP to date, efforts at intensification, and an evaluation report being prepared by Ohio State University. The Forest Service has been involved with NAPIAP since its inception and has benefitted from research funded by the program. In addition, the agency has influenced decisions about the continued availability of pesticides subjected to the EPA Rebuttable Presumption Against Registration and Special Review Processes.

If you have ideas, issues, or concerns you would like voiced at the meeting

CONTACT: ZDENKA HORAKOVA (703) 235-8209

PEST MANAGEMENT POSITIONS OPEN

The Wallowa-Whitman National Forest recently announced its intent to fill two pest management positions at their La Grande, Oregon headquarters office. The Forest encourages interested entomologists (GS-414 series) and pathologists (GS-434 series) to apply. The entomologist will be in charge of coordinating all aspects of a complex insect detection, evaluation, prevention, and suppression program related to such pests as the mountain pine beetle, the western spruce budworm, and the gypsy moth. The pathologist will be responsible for coordinating and implementing a complex pathogen detection, evaluation, prevention, and control program for such diseases as dwarf mistletoe, western white pine blister rust, and root diseases.

Applicants for these positions will be rated on their knowledge of resource management planning processes, their ability to manage and communicate, and their knowledge of scientific methods related to the management of forest insect and/or disease pests.

Persons interested in these positions are encouraged to

CONTACT: BARBARA O'DAY (R-6) (503) 221-5281

MITICIDE TO MAKE A COMEBACK

Kelthane^R 35, a wettable powder miticide containing the active ingredient dicofol from Rohm and Haas is returning this year for use against tree and nursery pests such as red, grass, and spruce spider mites. EPA restored registration on December 31, 1987.

The registration for this miticide was originally withdrawn by EPA because of DDT-related impurities in the product. Concern arose over the effects of the miticide on birds. However, after an environmental impact study of the products, EPA concluded that they posed no unacceptable risk to avian species.

In complying with EPA requirements for continued registration, Rohm and Haas invested in manufacturing improvements to keep DDT-related impurities in Kelthane^R production under 2.5 percent.

For additional information on future availability of this miticide

CONTACT: MR. KENNY CORDELL
MARKETING MANAGER

ROHM AND HAAS
(215) 592-2517

REVIEW IN REGION 9 AND THE NORTHEASTERN AREA

A review of the Region 9 and Northeastern Area pesticide-use management and coordination activities was conducted April 26-May 2. Team leader was Max Ollieu, Assistant Director, WO-FPM; other team members were Larry Yarger, R-9 pesticide coordinator; Bernie Schruender, reforestation silviculturist, TM/R-9; and Paul Mistretta, plant pathologist, vegetation management team, R-8. Also participating were Pete Orr, Assistant Area Director, NA-FPM; Bob Cunningham, Group Leader, LMP, PB&B/R-9; and Charlie Newlon, Forest Resource Liaison Officer, NA&R-9.

The team opened the review in the Regional Office in Milwaukee by interviewing various staff members as well as the Acting Regional Forester. The field phase of the review involved visits to the Allegheny, Chequamegon, and Superior National Forests, the J. W. Toumey Nursery, the Forest Pest Management Field Offices in Morgantown, WV, and St. Paul, MN, and the Minnesota Department of Natural Resource Office in St. Paul, MN. In addition, staff from the Nicolet National Forest visited with the team at the Toumey Nursery. Steve Horsley, Northeastern Forest Experiment Station, Warren, Pennsylvania gave a slide lecture while the team was visiting the Allegheny National Forest Supervisor's office. Mike Wehr, North Central Experiment Station, Houghton, Michigan discussed herbicide application-equipment development on the Chequamegan National Forest. The team also visited with Marna Butler-Fasteland, Forest Vegetation Management Cooperative, Cloquet, Minnesota.

The team recognized the Region and the Area for excellent work in nine areas: (1) Area office pesticide-use assistance provided to Region 9, (2) Regional and Northeast Area field office assistance, (3) pesticide coordinators on Forests, (4) training, (5) use of alternative pest control strategies, (6) support of a Northeast Integrated Pest Management Work Group, (7) use of integrated resource teams, (8) cooperative work between several National Forests and Research Work Units, and (9) the Area's leadership in implementing the National Environmental Policy Act (NEPA) for insect suppression programs. Issues the team thought in need of attention included: (1) military aircraft, (2) NEPA document for vegetation management projects in Region 9, (3) NEPA documentation for pesticide-use at Toumey Nursery, (4) additional research, and (5) vegetation management expertise. In addition to the issues, fifteen observations were recorded which may need some additional followup by the Region, the Area, or the Washington Office.

In summary the team determined that the pesticide programs in the Region and Area are generally conducted in an effective manner with opportunities exploited and initiative at both the Forest and District level encouraged. The Region has quality personnel in the pesticide coordinator positions who show considerable understanding and innovation in pesticide-use management. They are generally well trained and use available networks to maintain proficiency.

For additional information on the review

CONTACT: MAX OLLIEU

(703) 235-8209

FOREST SERVICE FEEDBACK NEEDED

Although this newsletter goes to interested persons external to the USDA Forest Service, we occasionally need feedback on internal affairs. Two items surfaced recently. The first deals with the newsletter itself, the second concerns signs for use in pesticide treatment areas.

"Short Subjects..." Index: It has been reported that the Index provided with last year's "Short Subjects..." issue No. 87-19 was useful but was too late to be helpful during the year. Three suggestions have been offered to alleviate the problem of not being able to rapidly retrieve information provided in "Short Subjects...." The three options are to provide:

1. A Table of Contents for each issue.
2. A Quarterly or Semi-annual Index.
3. An Up-to-date Index (on request, through Data General).

An up-to-date index is currently maintained in the Washington Office therefore accommodating any of these options would present minimal extra effort. But we need feedback from you to identify the most helpful solution is requested.

For followup

CONTACT: DENNIS HAMEL

DG: D.HAMEL:W01B

Pesticide Treatment Area Signs: The Washington Office has received some complaints that currently available pesticide treatment signs (P21-1 and P21-2) are lasting too long. Originally designed to last 1-2 months (see the 1981 version of FSM 2155.21, No. 12), the old cardboard **NOTICE** and **WARNING** signs were disintegrating too fast, therefore, an upgraded sign material was ordered. Now we have reports of the signs lasting 6 months to a year and creating difficulty with external publics. Therefore, we need your advice on which period of sign longevity is preferred.

The current Forest Service Manual (FSM) does not require pesticide treatment area signing; however, it is a good practice and will soon be recommended in a revised Forest Service Handbook (FSH) on pesticides. Your input at this time will help determine the appropriate characteristics of future signs. To provide input

CONTACT: DENNIS HAMEL

DG: D.HAMEL:W01B

END

SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS

May 6, 1988

"D" FOR "D"

The U.S. Environmental Protection Agency (EPA) announced on March 23 that it will not conduct a Special Review of 2,4-D because scientific research has been unable to confirm suspicions that it causes cancer. At the same time, EPA classified 2,4-D as a Category D pesticide, one which displays no evidence of human carcinogenicity.

According to EPA, some of the best toxicologists in the country have looked at the data and have been unable to verify a link between 2,4-D and human cancer. The possibility of a cause and effect relationship arose in 1986 after the release of a National Cancer Institute (NCI) study of Kansas farmworkers who had supposedly used 2,4-D more than 20 times a year. The NCI study indicated that as a result, farmers were eight times more likely to contract non-Hodgkins lymphoma, a cancer of the lymph glands. However, a followup study by NCI in western Washington found no correlation between 2,4-D use and increased cancer rates.

In spite of this current reprieve for 2,4-D, EPA plans to seek additional long term studies of the effects of 2,4-D to be sure this phenoxy herbicide should remain a Category D pesticide. For additional information

CONTACT: LARRY GROSS (703) 235-8209

DIOXIN DISASTER HAS NOT CAUSED AN INCREASE IN BIRTH DEFECTS

Scientists reporting in the March 18 Journal of the American Medical Association say that they have examined 15,291 births and report no evidence of an increase in birth defects in children born in Seveso, Italy where in 1976 a chemical plant explosion contaminated a broad area with the extremely, toxic compound 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). The study included infants born in the six years from 1977 to 1982 and found that the rates of birth defects were the same in TCDD-exposed as in non-exposed areas.

The phenoxy herbicide 2,4,5-T is also known to have been contaminated with TCDD. It has also been implicated as a contaminant of 2,4-D because of the close association and use of these two phenoxies in a combination called Agent Orange--a defoliant used during the Vietnam conflict. Although the amount of TCDD exposure resulting from a chemical plant explosion and subsequent contamination of a civilian population bears little resemblance to the use of an herbicide with minor contaminants in vegetation management, it is significant that greater exposures resulting from an accident are resulting in fewer adverse health effects than have been claimed by opponents of the use of 2,4,5-T and other phenoxy herbicides in the U.S. and other countries. For more information

CONTACT: ZDENKA HORAKOVA (703) 235-8209

SOUTHERN REGION EMBARKS UPON SECOND EIS

In 1987, the Southern Region of the Forest Service (R-8) initiated an effort to develop three distinct vegetation management environmental impact statements (EIS). The EIS's were to cover three unique vegetation zones in the South--the Coastal Plains/Piedmont, the Ozark/Ouachita Mountains, and the Appalachian Mountains. A draft EIS of the Coastal Plains/Piedmont area has been completed and the Region is now beginning its analysis of National Forest vegetation management for the Appalachian Mountains.

The purpose of these in-depth analyses is to gather and discuss information about vegetation management alternatives and provide decisionmakers with the best data upon which to make sound decisions to ensure that the public continues to benefit from these lands. It is the Regional Forester's desire to implement his Forest Land and Resource Management Plans recognizing that each Plan calls for managing vegetation for multiple use including wildlife, timber, forage, recreation, and water. Therefore, he and his planning team need to critically evaluate the methods they plan to use, including some which are controversial such as the use of herbicides and prescribed fire. But their intent is to take all concerns into account and decide the best ways to: prepare sites for reforestation, improve timber stands through release and precommercial thinning, improve wildlife habitat, maintain road and trail quality, reduce wildfire hazard, and improve recreation sites. In evaluating how best to accomplish these tasks, manual, mechanical, prescribed fire, biological, and chemical (herbicide) means will be examined.

For additional information about R-8's EIS's

CONTACT: STEVE MCCORQUODALE

(404) 347-7076

CANADA-UNITED STATES MOUNTAIN PINE BEETLE SYMPOSIUM

A symposium on the management of lodgepole pine to minimize losses to mountain pine beetle (MPB) is being sponsored by the Canada/United States MPB Program July 12-14 at the Outlaw Inn, Kalispell, Montana. The symposium is being hosted by the Flathead National Forest and is bringing together for three full days of discussion an internationally recognized group of experts.

Topics of discussion at the symposium will range from the status of current MPB infestations in North America to new and innovative silvicultural and biochemical strategies to minimize MPB losses in lodgepole pine forests. Special events will include a luncheon at which the Timber Wolf Recovery Program in Glacier National Park will be discussed, a field trip to observe silvicultural strategies in use on the Flathead National Forest, and a field trip to observe semiochemical deployment and use strategies. For more information on the symposium

CONTACT: DAVE HOLLAND

(801) 625-5257

DIMILIN DOUBLETAKE

The USDA Forest Service (FS) found itself in a unique position this spring when it was determined that the Animal and Plant Health Inspection Service (APHIS) had insufficient funds to carry out their gypsy moth eradication responsibilities and that the FS would have to assist by conducting eradication efforts in North Carolina and Virginia on Federal and State lands. The situation required a doubletake since the product of choice in gypsy moth quarantine/eradication efforts is diflubenzuron (Dimilin^R); however, the Dimilin 25W^R label only allowed APHIS to conduct quarantine/eradication programs using multiple (two) applications of this insect growth regulator. Therefore, had the FS used Dimilin^R it would have been in violation of Federal law (the Federal Insecticide, Fungicide, and Rodenticide Act, as amended) for using a product in a manner inconsistent with its labeling.

Fast action by the FS, APHIS, the registrant (Duphar) and the Environmental Protection Agency (EPA) averted any problems when Duphar submitted, and EPA accepted, a Dimilin^R label change that allowed Dimilin^R use "in quarantine programs conducted by State Cooperators as well as USDA personnel of both Plant Protection and Quarantine, APHIS and the U.S. Forest Service."

Anyone wishing a copy of the revised Dimilin^R label should

CONTACT: DENNIS R. HAMEL

(703) 235-8209

ABOVE-GROUND STRYCHNINE USES DISALLOWED

A U.S. District Court in Minnesota ruled on April 11 that the Environmental Protection Agency's (EPA) continuing approval of strychnine uses for above-ground control of prairie dogs, ground squirrels, and meadow mice constitutes illegal "taking" of threatened and endangered species and ordered the agency to discontinue the registrations. The ruling came as a result of civil action brought against EPA and the Department of the Interior (USDI) by the Defenders of Wildlife, the Sierra Club, and the Friends of Animals and Their Environment. The suit claimed EPA and USDI violated the Endangered Species Act (ESA), the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, the National Environmental Policy Act, and the Administrative Procedures Act.

In summary, the court stated that EPA is in continuing violation of the ESA "by registering...strychnine which might be used within an area also inhabited by any threatened or endangered species determined to be likely jeopardized or which has suffered a strychnine kill documented in the non-target kill book." The order continued, "The Administrator is in continuing violation of ESA by permitting strychnine use in a manner which may cause the incidental taking of an endangered or threatened species without prior authorization of the Secretary of the Department of the Interior..."

The Administrator of EPA must publish the findings of the court in the Federal Register. The Forest Service will forward copies via an Advisory Memorandum. In the meantime, it is expected that FS activities will be little affected by the order since strychnine is seldom used for above-ground treatments. The court decision could, however, affect other pesticide use programs as they relate to the laws addressed by this opinion. If you have questions about the case

CONTACT: VINCE DEWITTE (202) 475-5742

PUBLIC INVOLVEMENT AND EPA'S ENDANGERED SPECIES PROTECTION PROGRAM

Public comment has been requested by the Environmental Protection Agency (EPA) on their proposed plan to implement an Endangered Species Protection Program. In addition to filing the proposed plan in the Federal Register (Vol. 53, No. 46) and requesting comments by June 7, EPA has been holding public meetings across the country to obtain interested-citizen input.

On Monday, April 25, EPA held a public meeting for residents of the Washington, D.C. metropolitan area. Members of the American Farm Bureau spoke on behalf of agriculture and voiced concern about the plan and its potential to decrease land values and reduce competitiveness among affected versus non-affected farmers. They also questioned the validity of the data upon which the program was being developed (e.g., the endangered species range maps and the environmental fate of certain pesticides).

Defenders of Wildlife and the National Coalition Against the Misuse of Pesticides (NCAMP) were present to lend support to EPA's program. However, they did express concern over calls for economic analyses of the proposed prohibitions as this would be an attempt to put a price on an endangered species. Advocates for the program also emphasized that if time was taken to develop the "hard" data for which the agricultural community was calling, there may not be any endangered species left to protect. They cited as an example the fact that it took the Fish and Wildlife Service fifteen years to determine the effects of DDT on raptors.

A relatively new idea was suggested at the meeting by Mr. Wyn Hock, Extension Service pesticide coordinator at Pennsylvania State University. He suggested special training and certification programs be established to assist applicators in impacted, endangered species areas. However, questions about who would sponsor and/or fund such programs remained unanswered.

For updates on EPA's plan to protect threatened and endangered species

CONTACT: SHELLY WITT (703) 235-8209

WORK GROUP ON AGRICULTURAL CHEMICALS AND THE ENVIRONMENT

Secretary of Agriculture Richard Lyng recently established a Work Group on Agricultural Chemicals and the Environment (WGACE). The purpose of the group is to make general recommendations in ten initiative areas that may be used to support budgetary recommendations as well as to define options and strategies for improving intra- and interagency coordination for improving our ability to deal with agricultural chemical issues (e.g., groundwater contamination, endangered species etc.). A report is due June 1 and at least one initiative will be to try to forge better cooperative efforts between USDA and regulatory agencies like EPA. Another initiative will be to help define a USDA policy that is proactive rather than reactive and that will allow for the sustained and proper use of agricultural chemicals in America.

Currently USDA is clearly on record in support of prudent and careful management and use of nutrients and agricultural chemicals. In addition, individual agencies have their own policies, but relevant USDA policy statements currently lack specific strategies and forceful or official, Office of the Secretary endorsement. It is the challenge of the WGACE therefore to set the stage to improve this situation.

For additional information about WGACE and/or FS involvement with it

CONTACT: MAX OLLIEU (703) 235-8209

HAZARDOUS MATERIALS COMPLIANCE AND ENFORCEMENT COURSE

The safe transportation of hazardous materials and hazardous waste is of national concern therefore the General Services Administration (GSA) has established a five-day course that intends to teach personnel the skills necessary to prepare and inspect shipments of such materials to determine compliance with the U.S. Department of Transportation's Hazardous Materials Regulations. The course will be taught in various cities from November 1988 to July 1989 by personnel of the Transportation Safety Institute, Research Special Programs Administration. If interested in this training

CONTACT: GSA TRAINING CENTER (703) 557-0986

BLM NOXIOUS WEED EIS UPHELD

The Bureau of Land Management (BLM) presented their noxious weed environmental impact statement (EIS), containing a human health risk assessment, to the Ninth District Court in Oregon in March. They asked the court to dissolve the portion of the March 1, 1984 injunction which precluded them from using herbicides to control noxious weeds. Judge Burns had previously (November 24, 1987) lifted part of the injunction and allowed BLM to treat some areas. The plaintiffs in the case appealed the decision to the Ninth Circuit Court of Appeals; however, the Circuit Court, in an opinion filed April 14 affirmed the holding that BLM's EIS and its supplement were adequate. For further information

CONTACT: VINCE DEWITTE (202) 475-5742

PRODUCT NAME CHANGES

During informal conversations with several pesticide manufacturers and distributors, the Forest Service has learned that several product name changes appear imminent. For example,

2,4-D: Vertac Chemical Corporation (now called Inter-Ag) currently distributes DOW Chemical Company products under the trade name Vertac^R. Apparently Inter-Ag has discontinued this relationship and it is our understanding that Rhone-Poulenc is negotiating with DOW for future 2,4-D marketing rights.

Acephate: Chevron's Ortho Chemical Division has advised us that they have combined with Sumitomo Chemical Company and future domestic products will be sold under the trade name Valent^R. Foreign sales will continue as they are.

We will keep you apprised of other developments, label changes, or registration number changes as they occur, but should you have need for more immediate information

CONTACT: MAX OLLIEU (703) 235-8209

INTERNATIONAL SYMPOSIUM ON CHEMICAL MIXTURES:
RISK ASSESSMENT AND MANAGEMENT

A three-day international symposium is being sponsored by the U.S. Environmental Protection Agency (EPA) in cooperation with the American College of Toxicology, Mobil Oil Corporation, the Society for Risk Analysis, the University of Cincinnati, and the World Health Organization (International Programme on Chemical Safety).

The conference is to be held June 7-9 in Cincinnati, Ohio and its purpose is to review the state-of-the-art techniques and approaches to quantifying the potential risks of exposure to chemical mixtures. Recently, EPA adopted guidelines for Health Risk Assessment of Chemical Mixtures. Assessment of risk from exposure to environmental pollutants typically has been conducted based on the co-individual constituents of the mixture (on a chemical-by-chemical basis); however, the need to evaluate potential effects of chemical mixtures on human health also exists.

This symposium should be of interest to government researchers and risk assessment managers; Federal, State, and local environmental and health officials; and individuals from academia and the private sector who are involved in or concerned about assessment of risk from exposure to environmental pollutants.

If interested in attending this symposium

CONTACT: MS. KATE SCHALK (617) 648-7810

MALATHION DATA GAPS IDENTIFIED

The U.S. Environmental Protection Agency (EPA) recently issued a registration standard on malathion which identified numerous data gaps. Included were: delayed neurotoxicity, oncogenicity, mutagenicity, reproductive effects, teratogenicity, hydrolysis, leaching and adsorption/desorption, accumulation in fish and other aquatic, non-target organisms, spray drift data, avian reproductive effects, residue data in water, and product chemistry studies. However, the standard said there was insufficient data to determine whether the pesticide should be put into Special Review. It did indicate that labeling may need to be added to warn about the need to protect water from contamination because of toxicity to fish. An additional label change would warn against application to blooming crops because of honeybee toxicity.

According to the standard, "Based on theoretical calculations, both terrestrial and aquatic uses of malathion may pose significant risk to aquatic fauna. In addition, reports of fish kills and results of several field studies suggest that adverse effects to both aquatic and terrestrial fauna may result from normal use of malathion. However, these field studies and fish kill reports are not adequately documented to enable EPA to propose restrictions on the use of malathion at the present time, therefore, EPA will reassess the impacts of malathion use to nontarget organisms after required ecological effects and environmental fate data are received and reviewed."

Since the USDA Forest Service uses malathion for miscellaneous insect control at a five-year average rate of about 400 pounds on 1,755 acres per year, it is unlikely that any regulatory action on malathion, as a result of these data gap determinations, will significantly affect the agency's pattern of pesticide use.

For further information

CONTACT: DENNIS R. HAMEL (703) 235-8209

GYPSY MOTH CONTROL PROJECTS UNDERWAY

The 1988 program to control gypsy moth in the United States began April 23 when 501 acres of Arlington National Cemetery (Virginia) were treated with diflubenzuron (Dimilin^R). Since project initiation in Virginia, a total of 190,470 acres have been treated in States from Delaware, Maryland, and West Virginia to the District of Columbia. In addition to diflubenzuron, the biological pesticide Bacillus thuringiensis is also being used to combat this introduced hardwood defoliator. By the time the 1988 cooperative gypsy moth control program is completed it is estimated that a total of 717,600 acres will have been treated on Federal and State lands in eight States and the District of Columbia. The Washington Office, Forest Pest Management staff maintains a daily record of treatment acreages and followup information may be obtained through them.

CONTACT: DICK FOWLER (703) 235-1554

MANAGING VEGETATION WITH CHEMICALS

"Managing Vegetation With Chemicals" is the title of a symposium that is being co-sponsored by the Department of the Navy and the U.S. Army Corps of Engineers Waterways Experiment Station August 1 in San Antonio, Texas. The symposium offers an excellent opportunity for training as well as for allowing participants the time for interaction with researchers and chemical company representatives who are actively involved in vegetation management. The symposium will consist of four segments. The morning session will include invited papers on: (1) Environmental and regulatory issues, (2) tree and ornamental growth management, (3) utility turf growth management, and (4) forestry and brush vegetation management. The following sessions will focus on the practical application of plant growth regulators (PGR's) and an evening period will include a poster session and displays of application equipment, and product literature on PGR's and herbicides. Attendees are encouraged to make plans to remain in San Antonio for the Annual Meeting of the Plant Growth Regulator Society of America (August 1-4).

Anyone interested in attending this symposium should

CONTACT: DR. HOWARD WESTERDAHL (601) 634-3860

BT BIOBURDEN

The safety of conventional chemical pesticides used in forest pest management has long been questioned. Now the biologicals (e.g., Bacillus thuringiensis) have been drawn into the picture. For example, questions concerning the safety of Bt have been raised because of rumors of potential human illness, including vomiting and diarrhea, along with rumors of disease-causing microorganisms in Bt products (which some have characterized as "Bt bioburden"). But to date these rumors have been determined to be without basis in scientific fact and the Forest Service has advised its field personnel that additional testing of products intended for use in 1988 is probably unnecessary. (See April 27 letter to Regions, Stations and Area, File designation 2150). In the event that some additional testing is deemed warranted, a set of recommended sampling protocols have also been distributed.

For additional information

CONTACT: MAX OLLIEU (703) 235-8209

RESOURCE TECHNOLOGY 88

"Resource Technology 88" is the title of an international symposium on advanced technology in natural resource management being held June 20-23 in Fort Collins, Colorado. The symposium, which has a long list of Federal and State co-sponsors, is designed for those in science, industry, education, and resource management who are interested in the opportunities and issues of using space-age technology for global resource management. The four-day symposium will feature: technology workshops, panel discussions, presentations of scientific papers, and poster and commercial exhibits. The symposium is also designed to showcase applied projects and serve as a platform to highlight a new phase of integrated forest management system development. State and Private Forestry Deputy Chief Al West will present a Federal agency perspective on a panel discussing "Opportunities for Advanced Technology in Natural Resource Management."

For additional information on Resource Technology 88

CONTACT: BILL WHITE

(303) 224-1777

REGULATION OF PESTICIDES: SCIENCE, LAW, AND THE MEDIA

Regulation of Pesticides: Science, Law, and the Media is the title of a new publication by Government Institutes, Inc. Basically, it is a collection of papers presented at a symposium at the American Chemical Society (Agrochemical Division) Meeting in Denver, Colorado on April 8, 1987. The purpose of the symposium was to disseminate information concerning the complex nature of the regulation of pesticide risk to chemists in general and to agricultural chemists in particular.

According to the editor, **Regulation of Pesticides: Science, Law, and the Media** is unique in that it is the first attempt to integrate all the elements (science, law, media, and politics) of a complex regulatory process which must administer the Federal Insecticide, Fungicide, and Rodenticide Act and develop credibility and harmony with the public sector. The book also is the first to present candid, honest discussions between leaders of all sides in the field of pesticide safety evaluation and pesticide risk. In summary the book attempts to balance the papers that were presented at the symposium in such a way that everyone (government, academic, industrial, and public and private sector professionals) can "have a say" about the problems facing the regulatory process for pesticides.

For anyone interested in obtaining a copy of **Regulation of Pesticides: Science, Law, and the Media**

CONTACT: GOVERNMENT INSTITUTES, INC.
966 HUNTERFORD DRIVE, #24
ROCKVILLE, MARYLAND, 20850

END

SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS

March 31, 1988

B.T. USE DISPUTED

The USDA Forest Service's Pacific Northwest Region (R-6) plans to treat about 850,000 acres to control populations of the western spruce budworm (See "Short Subjects..." Issue No. 88-1; p.7). Much of the defoliation being caused by the budworm (WSBW) is on the Mt. Hood National Forest in Oregon and is both highly visible and causing substantial impact to the timber resource. Therefore, R-6 decided to proceed with plans to treat portions of the infestation with the biological insecticide Bacillus thuringiensis var. kurstaki (Bt).

In December 1987, the Region advertised its intent to negotiate a sole-source contract for the use of the Sandoz, Inc., Bt product Thuricide 32LV^R in the **Commerce Business Daily**. The reason for the Region's choice was that they needed an EPA-registered aqueous formulation that could be applied undiluted at the rate of 16 BIU's in 64 ounces per acre of product. Previous experience with WSBW control convinced the Region this was the product and application rate most likely to result in a successful control project. The Region believed that Abbott Laboratories, the only other potential supplier of a Bt product, did not have a product registered with EPA that met the proposed project criteria. In addition, R-6 in 1987 attempted to use Abbott's Dipel 6L^R and 6AF^R Bt formulations and had poor results, particularly with Dipel 6L^R when it formed unsprayable emulsions.

Abbott Laboratories protested the Region's choice and attempted to stop acquisition of Sandoz's Thuricide 32LV^R. Numerous attempts to influence Congressional contacts were made by Abbott prior to review by the General Accounting Office (GAO). A hearing was held by GAO in Washington, DC on March 29. A decision is to be rendered in 90 days.

In the meantime, the Forest Service, wishing to support a competitive, free-enterprise system with regard to the future availability of biological pesticides for forest pest control, plans to use Sandoz's Thuricide 32LV^R product on about 600,000 acres of an operational control area and Abbott's Dipel 6L^R on about 183,000 acres of a pilot control area. About 6,000 acres of the latter will be intensively monitored for product effectiveness and efficiency. The Region is also pilot testing two other aqueous formulations of Bt on 56,000 acres in 1988. These two products are Thuricide 48LV^R and Dipel 6AF^R, both of which will be tested at the rate of 16 BIU's in 43 ounces of undiluted product per acre. It is hoped that in the future all of these Bt products, as well as others, will be available for the control of forest defoliators. For additional information about the planned use of Bt in R-6

CONTACT: MAX OLLIEU (WO)
JIM HADFIELD (R-6)

(703) 235-8209
(503) 423-2727

GROUNDWATER POLLUTION PREVENTION

The U.S. Environmental Protection Agency (EPA) has proposed a plan to prevent pollution of groundwater that would require some pesticides to be regulated based on their leachability in porous soils. The proposal is expected to be difficult to implement because it is controversial among pesticide manufacturers and it plans to put the onus on State governments for implementation.

About 50 to 60 pesticides, many of them suspected carcinogens, have been detected in the groundwater of 30 States surveyed so far, according to EPA. The concentrations of detected pesticides have been low, but authorities are worried about the contamination because underground aquifers are the main source of drinking water for more than half the country. As evidence has increased that the contamination is widespread, local, State, and Federal officials have been debating how to control the use of agricultural chemicals.

The proposal to regulate pesticides according to their leaching potential is part of a long-awaited plan by EPA. The plan describes in broad outline how EPA intends to control groundwater contamination by pesticides. The comprehensive proposal is currently being circulated for comment. In the Washington Office of the FS, reviews have been conducted by the Forest Pest Management, Watershed and Air, and Engineering staffs. For followup information

CONTACT: LARRY GROSS
ZDENKA HORAKOVA

(703) 235-8209
(703) 235-8209

FOREST SERVICE REQUESTS AND RECEIVES RFP'S

The USDA Forest Service (FS), in a recent issue of the ~~Commerce Business Daily~~ (Issue No. PSA-9540), advertised its intent to process several hundred kilograms of frozen, nucleopolyhedrosis-infected Douglas-fir tussock moth (DFTM) larvae. The announcement was a request for proposals (RFP No. 13-88) from firms interested in bidding on a Statement of Work to process the DFTM cadavers into the FS-registered product--TM **Biocontrol-1**. The DFTM larvae were reared, artificially infected with virus, and frozen at the Forest Service's DFTM virus production facility in Corvallis, Oregon.

In response to the announcement, the FS received four requests for copies of the 68-page Statement of Work, which defines the tasks to be accomplished (i.e., homogenization, lyophilization, screening, and vacuum sealing of a wettable-powder insecticide) and the criteria by which proposals will be evaluated. In about 45 days a team of FS technical and contracting experts will evaluate the proposals submitted, select a firm to do the processing, and negotiate a contract. Once completed this effort will result in the FS having about 240,000 acre equivalents of DFTM-virus insecticide on hand to treat future outbreaks of this defoliator.

For additional information

CONTACT: DENNIS R. HAMEL

(703) 235-8209

NATIONAL AGRICULTURAL LIBRARY BIOTECHNOLOGY INFORMATION CENTER

The National Agricultural Library (NAL), the largest agricultural library in the free world, has established a biotechnology information center at their headquarters in Beltsville, Maryland. The center provides access to a variety of information services and publications covering many aspects of biotechnology such as: basic genetic manipulation theory and technique; plant and animal genetics, monoclonal antibodies, and food processing and biomass applications.

The center can help patrons answer questions such as:

- * What is the latest information on risk assessment of the release of genetically engineered organisms?
- * How are genetically engineered organisms being used in the food industry?
- * What are the latest biotechnology techniques that are being used to control disease in plants and animals?
- * What success are researchers having in developing new products?
- * What are the various industrial products and processes that are emerging using new biotechnology?

For more information on the NAL Biotechnology Information Center

CONTACT: NAL PUBLIC SERVICES DESK (301) 344-3755

MASK OFFENSIVE PESTICIDE ODORS

Unpleasant pesticide odors often translate to the general public that toxic, hazardous chemicals are in use. In addition, experience has shown that inefficiency and absenteeism is greater when disagreeable smelling pesticides are part of a crew's work environment. Therefore, in some cases it may be advisable to attempt to use pesticides in a manner that will result in the broadest community acceptance. One way to do this is to mask offensive odors.

MASK-ITTM is a new product recently placed on the market by Rockland Chemical Co., Inc. The product is a miscible fragrance that may be added to pesticide tank mixes to mask the odor of active ingredients and their solvents or carriers. Used at a concentration of one quart per 1,000 gallons, a faint, pleasant, citrus odor will be detected in the treated area for eight or more hours after treatment. MASK-ITTM has been used successfully with the following forestry-use pesticides: acephate, malathion, chlorpyrifos, and the phenoxy herbicides. For additional information on this product

CONTACT: MR. HENRY PRATT PESTICIDE PRODUCT CONSULTANT
ROCKLAND CHEMICAL CO. (201) 575-1322

FACTORS AFFECTING TRICLOPYR

In a report recently issued by the Coordinated Research on Alternative Forestry Treatments and Systems (CRAFTS) in Vegetation Management, a cooperative program at the Forestry Research Laboratory, Oregon State University, researchers have described their attempts to understand the factors that influence the delivery and effectiveness of triclopyr applications on bigleaf maple sprout clumps.

Triclopyr is one of the most common herbicides used to control bigleaf maple sprout clumps in forest plantations in the Pacific Northwest. The ester form of triclopyr (Garlon 4^R) is often applied to individual clumps as a basal bark treatment. Basal bark applications are generally applied in a diesel oil mixture or undiluted in a thinline (thin stream of liquid) treatment. The product is also applied in broadcast aerial applications for site preparation to control bigleaf maple and other undesirable, woody plant species. The amine form of triclopyr (Garlon 3A^R) is also used as an application to the cambium of freshly-cut stumps to control sprouting.

First-year results of the CRAFTS program research compared four treatments (thinline, basal spray, foliage spray, and manual cutting with cut-surface application). The purpose of the test was to determine if clump crown volume, season of application, number of stems in three diameter classes, or study site were associated with the amount of triclopyr that was delivered to a sprout clump. The effectiveness of the treatments was also examined.

Triclopyr delivery was greater for the thinline than all other treatments. Five times more triclopyr was delivered with the thinline treatment than with the basal spray. Triclopyr delivery for the basal spray and thinline treatments decreased as clump size increased. Lower delivery rates on larger clumps were apparently related to a lower stem surface area available for treatment. Differences in triclopyr delivery were also found for the basal spray and thinline treatments among study sites. Triclopyr delivery with the thinline treatment increased as the number of sprout stems under one inch in diameter on the clump increased.

The dormant season (February) treatment was the most effective when the basal spray and thinline application methods were used. Effectiveness decreased when triclopyr was used during the growing season and less than 4 ml of product per square meter of crown area was applied. No difference in the effectiveness of the thinline or basal spray methods was found when the rate of triclopyr delivery was held constant, suggesting that the major difference in the effectiveness of these methods is related to the amount of triclopyr delivered.

For additional information on this study or the CRAFTS program

CONTACT: MR. ROBERT G. WAGNER (503) 754-2244

UPDATE ON CALIFORNIA'S PROPOSITION 65

When readers of California newspapers opened their food sections recently, they found a clip-and-save coupon far less appetizing than the usual "10 cents off...." "Before you buy," the ads said, "get information about possible warnings regarding cancer, birth defects, and other reproductive harm for certain consumer products" Under "clip and keep handy" was a toll-free telephone number to call for more information about specific products.

The newspaper messages were part of the pesticide, other chemical, and food industry's compliance with Proposition 65, a controversial California law that was passed by California voters in 1986. The law, which just went into effect, requires manufacturers to give consumers "clear and reasonable" warnings regarding exposure to chemicals that pose a significant risk in causing cancer or reproductive harm.

Officially known as the Safe Drinking Water and Toxic Enforcement Act, the law seems to herald a new era of how the public wants to be protected from potentially toxic substances. Once again Californians are setting a trend--this time one that could inspire similar warnings across the country.

Essentially, the premise of the proposition is that Federal laws do not adequately protect consumers from the risks of a chemical society. As a result, California's risk estimates are often more strict than Federal standards. Legislatures in more than 20 other States have followed California's lead and introduced bills similar to Proposition 65.

For more information on this law and its potential effects, especially on the use of forest pesticides and other chemicals in California,

CONTACT: BRIAN STURGESSION (415) 556-6520

VERTEBRATE PEST CONFERENCE

The Vertebrate Pest Council sponsored the Thirteenth Vertebrate Pest Conference March 1-3 in Monterey, California. The conference was attended by two Washington Office Forest Service personnel and eighteen Regional personnel. Topics presented at the conference ranged from "Public Attitudes Toward Animal Damage Control" to "Vertebrate Pest Damage in Groundnut Plantations in Pakistan." A presentation on behalf of the Forest Service was made by Ms. Shelly Witt entitled "Effects of Implementation of EPA's Endangered Species Protection Program on National Forest System Lands." A proceedings of the conference will be available in three to four months. If you wish a copy

CONTACT: MR. TERRELL P. SALMON
UNIVERSITY OF CALIFORNIA

WILDLIFE EXTENSION SPECIALIST
DAVIS, CALIFORNIA 95616

PESTICIDE PUBLIC POLICY FOUNDATION UPDATE

The Pesticide Public Policy Foundation (3PF) has recently reevaluated their future role and have clarified their mission statement. It is summarized below:

- * 3PF represents urban, suburban, and industrial pesticide applicators.
- * 3PF supports the public's right-to-know regarding pesticides and pesticide application, as well as the protection of people, pets, and the environment. Legislation and regulation designed to meet these ends, however, must be based upon REASONED PESTICIDE PUBLIC POLICY, weighing both risks and benefits.
- * 3PF is concerned with pesticide matters at the Federal, State, and local levels. Primary emphasis is placed upon fostering the formation, development, and education of Statewide coalitions of pesticide applicators to work towards the adoption of necessary, reasonable, and workable regulations.
- * 3PF serves as an information source on pesticide matters to the media, elected officials, and regulatory authorities.
- * 3PF endorses the safe handling and application of pesticides through the support and encouragement of strengthened and uniform applicator training and certification standards.

For additional information about 3PF

CONTACT: DR. J. F. WILKINSON

1-800-GET-PPPF

ENDANGERED SPECIES PROTECTION PLAN

The U.S. Environmental Protection Agency (EPA) announced a revised proposal for the protection of endangered species in the March 9 **Federal Register** (Vol. 53, No. 46). In the **Federal Register** (FR) Notice, EPA requested comments on a plan which they intend to implement that would ensure that pesticide use is not jeopardizing endangered species. Previously, EPA tried to implement the plan without a public comment period; however, other Federal agency and industry personnel, and agriculturists nationwide strenuously objected. EPA subsequently delayed implementation of the program for the 1988 growing season.

Copies of the FR Notice are currently being distributed to Forest Service personnel and comments should be forwarded to the Washington Office by May 2 for consolidation into an Agency response that will be forwarded to the Department. The Department wishes all comments submitted to them by May 13. This will enable them to comply with EPA's June 7 reply-due date. For additional information

CONTACT: MS. SHELLY WITT

(703) 235-8209

SOUTHERN REGION PESTICIDE REVIEW

A review of pesticide-use management and coordination activities was recently conducted in the Southern Region (R-8). The team conducting the review included Max Ollieu (WO-Forest Pest Management), Dick Fitzgerald (WO-Timber Management), Larry Yarger (R-9, FPM), Harvey Toko (R-8 FPM), Max Williamson (R-8, FPM), and Jim Walker (R-8, TM). The purpose of the review was to examine the entire scope of the pesticide program in the South but with specific emphasis on organizational efficiency, directives compliance, National Environmental Policy Act compliance, contracting, training, certification, and pesticide storage and incident reporting.

The team began its review in the Regional Office with an entry with the Regional Forester and other staff members. Personnel contacted during the field phase of the review included staff from the National Forests in Mississippi and Alabama and at the Forest Sciences Laboratory in Auburn, Alabama. Also visited was the Auburn University Forestry Cooperative.

The Region was recognized for its excellent work in eight areas: (1) Pesticide storage; (2) technology transfer for ground application of herbicides; (3) work done by Max Williamson, the Region's herbicide specialist; (4) utilization of new spray deposit technology; (5) research coordination; (6) seed orchard pest management training; (7) activities associated with the National Agricultural Pesticide Impact Assessment Program, and (8) seedling survival of longleaf pine. Issues the team thought needed some additional attention included: (1) Timeliness of funds distribution out of the Washington Office; (2) NEPA compliance, especially for nursery and seed orchard projects; (3) additional expertise in vegetation management; (4) improved coordination with research, and (5) better treatment verification at sites on National Forest System lands where herbicides have been used.

For additional information about the team's findings

CONTACT: MAX OLLIEU

(703) 235-8209

BIOTECHNOLOGY SYMPOSIUM SLATED

The Federation of American Societies for Experimental Biology (FASEB) will host a biotechnology symposium at their 72nd Annual Meeting scheduled for May 1-5 in Las Vegas, Nevada. The FASEB annual meeting is one of the world's largest scientific gatherings. This year, it is expected that more than 9,000 scientists will present papers covering a wide spectrum of biological and medical topics. More than 450 companies intend to display over 900 scientific, technical, and educational exhibits. New challenges posed by the burgeoning field of biotechnology will be the focus of attention for a special symposium at the meeting. For addition information

CONTACT: FASEB HEADQUARTERS

(301) 530-7075

HAZARDOUS MATERIALS VIDEOCOURSE TO BE OFFERED

The Federal Emergency Management Agency (FEMA) through its Emergency Education NETwork (EENET) will present a 16-hour hazardous materials awareness, identification, and basic safety program on Tuesday and Wednesday, April 26-27. The training program will be conducted by videoconference and videotaping is encouraged.

The training program is designed to provide information in multiple methods of identifying potentially hazardous substances or situations in the workplace. Information presented will include potential hazards to people, property, or the environment posed by different classes of hazardous substances including toxicity, flammability, corrosivity, explosivity, reactivity, and other hazards. Basic personal safety considerations will also be presented. Portions of the program will address methods for researching and obtaining information on hazardous substances using widely recognized reference publications and other resources. Programmed instruction combined with interactive call-in periods via toll-free numbers will be used to link viewers to broadcast instructors.

Originating at the National Emergency Training Center in Emmitsburg, Maryland, this broadcast will be transmitted nationwide by satellite, and can be accessed by a C-band antenna or satellite dish. Satellite information is SPACENET 1, Transponder 4, Channel 7, downlink frequency 3840 MHz, audio frequency 6.2-6.8 MHz. SPACENET 1 is located 120° west over the equator.

For further information

CONTACT: EMERGENCY EDUCATION NETWORK (301) 447-1068

NINTH ANNUAL SETAC MEETING SET

The Ninth Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC) will be held November 13-17 at the Hyatt Regency Crystal City Hotel, Arlington, Virginia. The meeting theme is "Reducing Uncertainty in Environmental Risk Assessments." Platform presentations and poster sessions will emphasize this theme. General sessions will include discussions of the following topics: Environmental chemistry, ecotoxicology, plant toxicology, fate of genetically engineered organisms, risk assessment, biodegradation/bioreclamation, chemical fate and effects, groundwater contamination, wildlife toxicology, field validation of laboratory results, and behavioral toxicology.

If you have questions about the meeting or any of the presentations

CONTACT: ^{Carry} J. L. SCHNOOR (319) 335-5649

Call

END

MESSAGE SCAN

TO PEST NEWS

From: Dennis R. Hamel:W01B
Postmark: Mar 11,88 11:06 AM
Status: Certified
Subject: NEWSLETTER 88-3

Comments:

You may be interested in knowing that in addition to our internal pesticide coordinators receiving this issue, we have been asked by the National Association of State Foresters, Forest Pest Committee to mail the newsletter to them. Therefore, if you get questions from State forestry personnel you will know that it may be because they too are receiving the newsletter.

-----X-----

SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS

March 11, 1988

ARE PHEROMONES HERE TO STAY?

In the January 8 issue of Science (Vol. 239, pp. 135-7), insect pheromones were given considerable attention as a result of a recent symposium sponsored by the Entomological Society of America (ESA). Members of ESA and representatives of the U.S. Environmental Protection Agency (EPA) agree that pheromones may be preferable to conventional chemical pesticides in the management of insect pests and EPA encourages their development and use. EPA has also given pheromones "top priority" in the pesticide registration process. Unfortunately, according to Mr. Edwin Tinsworth, EPA's Director of Registration, a priority rating has little meaning in an agency plagued by work overloads and tight budgets.

Take for example the case of the USDA Forest Service's (FS) request for registration of 3-methyl-2-chlohexen-1-one or MCH, the antiaggregative pheromone of the Douglas-fir beetle. The USDA-FS began researching MCH in the early 1970's and has operated under experimental-use permit (EUP) guidelines since then. In March 1986, the FS requested full registration for MCH. It was not until February 1988 that the FS was finally informed by EPA that their MCH registration request had been reviewed but that additional data gaps would need to be filled prior to registration.

The FS is currently analyzing its options as to whether or how and/or by whom these data gaps should be filled. For example, they are examining alternatives as to whether the Federal government should pursue the registration of this naturally-occurring, non-toxic, biological insecticide or if private sector interests should be encouraged to pursue further development. In the meantime, the FS has requested another extension of its EUP, which was to expire May 23. On February 19, EPA granted a two-year extension for the use of MCH through May 23, 1990. Therefore, for a while it appears that pheromones are here to stay. Questions that remain, however, are: How quickly will EPA be able to respond to other requests for pheromone EUP's; full registrations; or waivers of data requirements? It is sometimes difficult to understand why waivers even need to be requested since pheromones are natural components of the environment. The only difference is that we have found the ability to modify and manipulate them in the hope that they can take the place of conventional chemicals to which insects are becoming increasingly resistant, and which the public has come to disdain.

Applications for EUP's for other pheromones (e.g., verbenone, the antiaggregative pheromone of the mountain pine beetle) are about to be submitted to EPA. While the FS is encouraged by EPA's recent (although long delayed) action on MCH, we hope that the way has been paved for the use of pheromones to stay. For additional information

CONTACT: Dennis Hamel

(703) 235-8209

NEW NATURAL PESTICIDES

The use of conventional chemical pesticides continues to be jeopardized by their real and/or perceived potential to cause adverse environmental impacts. Therefore, the search for new, natural pesticides has accelerated in the hope that pest resistance and nontarget impact can be kept to a minimum while still achieving pest management goals and objectives. Here are several natural pesticides new to the marketplace:

MARGOSAN-OTM: Margosan-OTM has been advertised as "the long-awaited natural pesticide derived from extracts of the seeds of the neem tree (Azadirachta indica)."TM It is now available directly from the manufacturer in limited quantities. Margosan-OTM contains azadirachtin, a tetranoctraterpinoid which acts on insects as a repellent, an antifeedent, and/or a growth regulator. In the latter case, it works on the brain and causes developing insects to alter their metamorphosis resulting in moulting failures or altered and impotent imagoes. Insect pests which have been shown to be susceptible to azadirachtin include: leaf miners, gypsy moth, locusts, and aphids. For more information:

CONTACT: Vikwood Botanicals, Inc. (414) 458-9351

NOLO BAITTM: In 1969, a researcher at the USDA Agricultural Research Service laboratory in Bozeman, Montana identified Nosema locustae as a possible candidate for biological control of grasshoppers (See "Short Subjects ..." Issue Nos. 87-7,16). Nosema is a naturally occurring protozoan, and although it had potential for commercialization, a properly formulated product was difficult to develop, register, and make available. Now, however, production, quality control, and application problems have been overcome, and a supply of Nosema is available for use in 1988 grasshopper control programs. The Nosema spores are formulated onto a bran bait and the product is aerially applied to third or fourth instar grasshoppers. Results from use of the product in Montana and North Dakota in 1987 indicated excellent control at moderate grasshopper population densities. For more information

CONTACT: Evans BioControl, Inc. (303) 460-1780

BIOSISTM **NEMATODES**: Two genera of entomogenous (insect-killing) nematodes have recently been identified as having potential for development as future, natural pesticides. The two genera, Steinernema and Heterophabditis, occur naturally worldwide, and are known to attack harmful insects but are safe to plants, humans, and birds. Among the insect pests that these nematodes are known to be effective against are: Japanese beetles, white grubs, mole crickets, and cutworms. Since some of these pests are known to occur in forest nurseries, it is exciting to learn that Biosis, Inc., a biotechnology company dedicated to the development of biologicals as an alternative to chemicals, is pursuing their commercial production. For further information

CONTACT: Dr. Ramon Georgis (415) 856-9500
Biosis, Inc. Palo Alto, CA.

PESTICIDE APPLICATION TECHNOLOGY MEETING

The Agricultural Research Institute (ARI) is sponsoring a workshop on "Improving On-Target Placement of Pesticides." The workshop will be held June 13-15 at the Sheraton International Conference Center, Reston, VA.

The objective of the workshop will be to develop an implementation plan for improving the placement efficiency of chemicals used in agriculture and forestry. Organizers of the workshop believe that the agrochemical industry has not kept pace in either the development of efficient delivery systems or in developing a basic understanding of the very complex process of pesticide application. With the advent of biotechnology research, robotics, models, artificial intelligence, and new computer systems, it is believed to be imperative that the transfer of new pesticide application technology be improved.

At a similar ARI conference in 1985, certain needs associated with pesticide application were identified and participants recommended that they: 1) develop a plan to resolve the problem of inadequate resources to effectively address problems associated with inefficient placement of agrochemicals; and 2) identify issues constraining technology transfer. This year's conference will revisit these issues. For additional information

CONTACT: Jack Barry (FPM)
Bob Breazeale (S&PF)

(916) 460-1715
(202) 447-9195

NEW MONOGRAPH ON PHENOXY HERBICIDES

The Veterans Administration (VA) recently released a new monograph entitled "Human Exposure to Phenoxy Herbicides," by Dr. T.L. Lavy. According to one Forest Service reviewer who has extensive experience using phenoxy herbicides, "the VA monograph does an excellent job of summarizing a large volume of factual phenoxy herbicide information in a complete, concise, easy-to-understand, and unbiased way."

The intent of the monograph, as expressed in the Preface "is to communicate with people who have a concern for those who have or may have been exposed to phenoxy compounds and any associated dioxin contaminants." The information provided is intended to allow readers to evaluate the facts and fiction which have long surrounded the phenoxies. The book describes the physical and chemical properties of phenoxy herbicides, takes an in-depth look at their fate in the environment, and considers the significance of phenoxy herbicide animal feeding trials.

This publication was written to provide information and evaluations which are prerequisite to judging the risk and benefits encountered with use of phenoxy herbicides. It is recommended reading for present or former users of 2,4-D or 2,4,5-T whether in forestry, in Vietnam, or in some other situation. For a copy of the monograph

CONTACT: Veterans Administration

(202) 233-4117

PESTICIDE SPECIALIST POSITION OPEN

The USDA Extension Service (ES) is currently advertising for an Agricultural Extension Specialist to serve as Director for Environmental Management and Agricultural Chemicals. The position (GM-14) is to be headquartered in Washington, DC. A vacancy announcement (#ES-88-308) is in circulation and indicates a closing date of March 4. Interested persons should

CONTACT: Larry McCullum (ES)

(202) 475-4987

PROSPECTS FADING FOR FIFRA REVISION

As reported in "Short Subjects ..." Issue No. 88-2 the 100th Congress has been attempting to proceed with reauthorization of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended. However, the Washington Post newspaper (March 6) reported that prospects for passage of the pesticide law appear to be fading. Two years ago pesticide industry representatives and environmentalists undertook a concerted, cooperative effort to reach a compromise on FIFRA reauthorization. This effort was hailed as a historic hallmark. A consensus bill began to emerge but it died in the waning hours of the 99th Congress. The 100th Congress tried to pick up where the 99th Congress left off, but unfortunately the agreements that had been cooperatively forged turned to dissonance. It now appears that the two sides are further apart than ever before. According to one Capitol Hill insider, "there are only so many legislative days left and the prospect of having FIFRA reauthorized in 1988 are fading fast." For more information

CONTACT: Max Ollieu

(703) 235-8209

ENVIRONMENTAL GROUP ESTABLISHES BIOTECHNOLOGY POLICY CENTER

Citing what they see as potential threats to the environment from rapid advances in bioengineering and biotechnology, the National Wildlife Federation (NWF) recently announced the establishment of a National Biotechnology Center. The staff of the new NWF center plans to oversee Federal agency review of applications to release "new" or bioengineered organisms (e.g., viruses, bacteria etc.) into the environment. They also plan to review existing laws to determine whether they believe new legislation is needed to further regulate biotechnology. Public education programs are also planned. Forest Service personnel using biotechnological techniques to enhance the quality of organisms with potential as biological pesticides or other forestry-related biotech research efforts should be aware of the NWF's interest in this area. Questions about the program may be addressed to the NWF's Headquarters Office in Washington, DC

CONTACT: Dr. Margaret Mellon

(202) 637-3797

NEPA WORKSHOPS

Decisions to use pesticides on National Forest System lands or in cooperation with States requires documentation in accordance with the National Environmental Policy Act (NEPA). Whether documentation is by presentation in an environmental assessment (EA), in an environmental impact statement (EIS), or categorically excluded from documentation in either an EA or an EIS, is not always as important as the fact that the Forest Service decision, which is always appealable, was documented. To keep abreast of Federal agency NEPA and appeal rules and regulations, several workshops are being offered by Shipley Associates. They include:

"Managing the NEPA Process," a two-day workshop that will assist line officers, staff specialists, interdisciplinary team members, reviewers, and others to better understand NEPA. The next courses will be offered in Chattanooga, TN (March 15-16) and Duluth, MN (April 5-6).

"NEPA and the Appeal Process," a two-day workshop designed to develop participant skills in planning, brainstorming, organizing logical argumentation, formatting documents and increasing sensitivity to various publics. The next workshop is scheduled for Atlanta, GA (April 12-13).

"Environmental Documents Writing," a three-day session designed for the person who writes or helps write EA's, EIS's, management plans, decision notices, or other NEPA-like documents. The next edition of this workshop is scheduled for April 19-21 in Washington, DC.

Anyone having an interest in attending any of these sessions should

CONTACT: Ms. Pam Wood

(801) 295-2386

STARCH-ENCAPSULATED PESTICIDES

Science magazine (December 21, 1987) and the Journal of Environmental Entomology (JEE) (February 1988) have both reported on new technology that allows pesticides to be encapsulated into tiny, gelatinous, cornstarch capsules. It is believed that by encapsulating either conventional chemicals (e.g., carbaryl) or biological (e.g., Bacillus thuringiensis) pesticides into starch that: (1) Costs can be reduced by decreasing the amount of active ingredient applied per acre, and (2) effectiveness can be enhanced by reducing the potential for ultraviolet degradation. Starch is an effective carrier because most plant-feeding insects have enzymes that digest it, thus releasing the pesticide contained therein. Since most biological pesticides require ingestion before becoming infective (and therefore effective) it is logical to test this new technology using a bacterium such as Bacillus thuringiensis (Bt). In the test reported on in the JEE, lepidopterous larvae ingested encapsulated Bt and there was nearly 100 percent mortality. An added bonus was that encapsulated Bt stored in the laboratory for four months exhibited no detectable decrease in pathological activity (i.e., infectivity). For additional information

CONTACT: Dr. R.L. Dunkle
Department of Agriculture

Agricultural Research Service
Manhattan, Kansas 66052

DIFLUBENZURON (Dimilin) PERSISTENCE

Diflubenzuron, a chitin-inhibiting pesticide registered as Dimilin^R, is beginning to be selected more often for use in pest management (e.g., gypsy moth control) programs because of its relatively low application costs and high degree of selectivity. However, the persistence of diflubenzuron in water and vegetation has been identified as a data gap and questions have been raised concerning its potential to adversely impact nontarget, aquatic invertebrates. To respond to concerns about these issues, the USDA Forest Service, under the auspices of the National Agricultural Impact Assessment Program (NAPIAP), recently completed a study to determine the environmental fate of diflubenzuron in forests.

The study, entitled "Persistence of Diflubenzuron (Dimilin) in a Small Eastern Watershed and its Impact on Invertebrates in a Headwater Stream," was conducted on the Nantahala Forest in West Virginia. Following aerial application of Dimilin to a 75-acre watershed containing a small stream, the persistence of Dimilin was measured in stream water, sediment, forest floor litter, and post spray, through-fall precipitation. The impact of Dimilin on aquatic invertebrates in the treated-watershed stream was determined by comparing populations pre- and post-spray with a nearby, untreated control stream.

The study found that Dimilin reached the stream channel both during application and as a result of wash-off from foliage during subsequent rainfall events. Dimilin levels were measured showing that they exceeded the acute and chronic toxicity doses for highly intolerant taxa such as Ephemeroptera (mayflies) and Plecoptera (stoneflies). However, the residence time for Dimilin in the stream was very short and the data collected indicated that toxic effects of Dimilin on invertebrate populations were not evident. For further information this study:

CONTACT: Ms. Alice Jones

(919) 541-4211

PESTICIDES AND POLITICS

"Pesticides and Politics: The Life Cycle of a Public Issue," is the name of a new book written by C.J. Bosso and published by the University of Pittsburgh Press (1987). Although the book starts out slowly, it picks up with interest and speed in Chapter 2. The book effectively chronicles the long, arduous, and often dynamic, pesticide, policymaking process which began over 40 years ago and today is represented by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended.

For anyone interested and/or involved in pesticide use, FIFRA, and pesticide policy- and decisionmaking, "**Pesticides and Politics**" is particularly of interest now that FIFRA is once again on the verge of reorganization/reauthorization (See related article in this issue). To obtain a copy of "**Pesticides and Politics**"

CONTACT: The University of Pittsburgh Press
Pittsburgh, Pennsylvania 15260

The National Institute of Building Sciences Wood Protection Council is planning a Wood Protection Workshop for October 11-13, 1988. The theme of the workshop will be "A New Look at Wood Protection." In addition to plenary sessions on critical issues in wood protection. There will also be poster sessions and wood industry showcase booths. One session will focus in part on wood-destroying organisms and environmental health issues related to the use of chemicals in their control. FS personnel wishing additional information should

CONTACT: Bob Lyon (WO-FIDR)

(703) 235-8206

BUFFER ZONES AND FOREST INSECT CONTROL

In April 1986, the Eastern Spruce Budworm Council sponsored a workshop on "Buffer Zone Regulations and Spruce Budworm Spray Operations." The workshop was held in Quebec City, Canada. The need for such a workshop had been identified by U.S. and Canadian forest pest managers responsible for insect spray programs. Canadian pesticide regulators who are responsible for establishing buffer zone regulations were also instrumental in setting up and participating in the workshop. The program for the workshop included: (1) presentations by representatives of regulatory agencies; (2) discussions of work on spray drift reduction; and (3) discussions of the overall impact of buffer regulations on forest protection programs. Also addressed were the socio-political aspects of buffer zones. The proceedings of this workshop were recently printed and copies are available through the Canadian Forestry Service. The publication (No. Fo18-7/1987E) is entitled "Buffer Zones: Their Application to Forest Insect Control Operations." To obtain a copy

CONTACT: Forest Pest Management Institute
1219 Queen Street East
Sault Ste Marie, Ontario, P6A 5M7

NEW PESTICIDE-USER PRODUCTS

Forestry Suppliers, Inc. recently announced the availability of several new pesticide-user products. These products have been used successfully in R-8 and they may be useful elsewhere. For example:

Eyewash Bottles: These bottles (Item No. 23309) are for emergency field use in flushing pesticides or foreign objects from the eyes.

Eyewash Bottle Carrying Case: A Cordura nylon, Velcro closure case that accommodates the eyewash bottle. Item No. 35749. \$5.95 each.

Kleenguard Disposable Coveralls: Made of a waterproof, three-layer, fabric that is designed to repel liquids (e.g., pesticides). The coveralls come in four sizes and cost \$4.25 each.

For additional information about any of these products

CONTACT: FORESTRY SUPPLIERS, INC.

1-800-647-5368

EPA SEEKS PROPOSALS FOR COOPERATIVE AGREEMENTS

The U.S. Environmental Protection Agency (EPA) recently announced its intent to accept applications for cooperative agreements to work in at least two areas of interest to pesticide users. The intended research programs are described briefly below:

Environmental Risk Communication Research: EPA plans to initiate a research program in risk communication in 1988. The purpose of this special effort is to improve the Agency's risk communication capabilities. Primary emphasis will be given to the investigation of conditions under which providing information about a particular risk would be a viable alternative to Agency regulation. Preliminary evidence indicates that effective communication can lead to individual actions so that people will voluntarily reduce risk. On the other hand, when regulation is the best option, then risk communication may be able to help people put risks in the proper context so they can better understand the tradeoffs that are part of risk management decisionmaking.

Environmental Economics Research: EPA also plans to initiate research in seven areas of environmental economics in 1988. Of particular interest to pesticide users is their intent to research "willingness-to-pay for reduced risk from pesticide residues in food." Apparently, preliminary EPA surveys suggest that consumers are concerned about the health effects from ingestion of pesticide residues. Yet a significant percentage of pesticide use is for reducing blemishes on fruits and vegetables--i.e., for improving cosmetic appearances but not necessarily nutritousness and/or wholesomeness. Therefore, EPA would like to cooperate in gathering data on consumer willingness-to-pay for food with reduced risk to health from pesticide residues, even though this food may suffer degradation in cosmetic quality.

If you are interested in applying for either of these cooperative data-gathering efforts or know of someone who would be

CONTACT: Ms. Renee Moore (EPA)

(202) 382-3354

HERBICIDE SPECIALIST RECEIVES NATIONAL HEALTH AND SAFETY AWARD

Max Williamson, R-8 Herbicide Specialist, was recently presented an award at the National Health and Safety Workshop. In presenting the award Chief Robertson noted that Max has been instrumental in raising the level of safety associated with herbicide use, particularly in the Southern Region. He has made significant impacts in the development and testing of safe and efficient application equipment, the development of training materials, and in the development of training programs for certifying pesticide applicators. In addition to these broad accomplishments, Max has personally assisted in the training of more than 2,000 Forest Service, State, and other Federal agency personnel. The result of his work has been improved pesticide applicator safety, increased pesticide-use efficiency, and enhanced public understanding of the use of pesticides in forestry.

END

For Ed Morning

SHORT SUBJECTS AND TIMELY TIPS FOR PESTICIDE USERS

February 9, 1988

WESTERN BARK BEETLE SEMIOCHEMICAL WORKSHOP HELD

More than thirty-five forest pest management, Canadian and U.S. researchers, State personnel, and semiochemical industry representatives attended a Western Bark Beetle Semiochemical Workshop, January 26-29, 1988, in Lakewood, Colorado.

The purpose was to respond to a September 4, 1987 request from Washington Office, Forest Pest Management for personnel from Forest Service Regions 1,2,3,4,5,6, and 10, to develop a Westwide Plan to guide the Washington Office in the allocation of Federal funds for bark beetle proposals to use semiochemicals (e.g., pheromones, attractants, repellants etc.) in the management of western bark beetles. It had become evident Forest Service-wide that there was a great deal of interest in the use of semiochemicals, but little consensus on how, when, where, or even if these materials should be used. Knowing that a substantial amount of developmental work had been done and that industry representatives were encouraging operational use, it became imperative that the situation be reviewed and a systematic approach be developed to resolve questions of information known, research needed, materials ready for use, and deployment strategies.

The first two days of the workshop were devoted to developing a common understanding among the participants about western bark beetle semiochemicals, their registration status under FIFRA, their use in compliance with NEPA, research underway, research needs, and operational or semioperational use of semiochemicals, to manage bark beetles in Canada and the U.S.

The remainder of the workshop was devoted to the development of a matrix that identified the participant's consensus about the current status of semiochemicals of the mountain pine beetle, Douglas-fir beetle, western pine beetle, spruce beetle, and Ips species beetles. Also developed at the workshop were a set of guidelines that would standardize field submissions of bark beetle-related proposals to the Washington Office for consideration of funding.

Several other action items were identified at the workshop. They included: (1) A need for WO pesticide specialists to determine the status of the herbicide MSMA for use in the U.S. in conjunction with bark beetle semiochemicals; (2) A need for letters of support for the completion of the registration of the Douglas-fir beetle antiaggregative MCH by the FS in conjunction with EPA; (3) support for the establishment of a FS Research Work Unit dedicated to the evaluation of pesticides (including semiochemicals) with potential for use in forest management.

In summary, the participants felt that the workshop was timely and highly beneficial. The objective of developing a westwide plan to guide the Washington Office in determining funding allocations for western bark beetle semiochemical-related proposals was met and the prohibition on use of bark beetle semiochemicals in the West can be rescinded. In addition, there was evidence of and support for continued FPM/FIDR, U.S./Canada, WO/Field, FS/State, and Semiochemical Industry cooperation in the further development of new technologies for use in managing potentially damaging populations of bark beetles.

2

ENDANGERED SPECIES PESTICIDE LABEL IMPROVEMENT PROGRAM ON HOLD

Early last week the U.S. Environmental Protection Agency (EPA) issued a Pesticide-Use Bulletin for Protection of Endangered Species. It confirms the delay of their Endangered Species Pesticide Labeling Program and negates the language that some manufacturers may have already placed on the labels of certain pesticide products requiring users to comply with the specific guidelines in 1988. Regional Foresters, Station Directors, and the Area Director will soon be receiving copies of this Bulletin in a Pesticide-Use Advisory Memorandum (No. 422). This information should be shared with appropriate personnel involved with pesticides and T&E species.

Along the same lines, **Pesticide and Toxic Chemical News** (January 27, pg. 21) reports that EPA has also released a PR Notice (88-1) officially withdrawing the endangered species labeling PR Notices 87-4 and 87-5. As quoted from the PR Notice 88-1, "If you have already made labeling changes indicated in PR Notices 87-4 and 87-5 you may: a) use that labeling until your existing supply is exhausted, b) sticker over (sic) the language required by PR Notices 87-4 and 87-5, or c) use labeling approved prior to issuance of PR Notices 87-4 and 87-5 provided all other labeling requirements implemented since May 1, 1987 are included on that labeling."

It continued: "Because some products are already in the marketplace with labeling changes indicated in PR Notices 87-4 and 87-5, EPA will publish Pesticide Use Bulletins for Protection of Endangered Species. Rather than contain information on limitations of use, these bulletins will explain the program deferral. Pesticide users who phone the U.S. Fish and Wildlife Service (USFWS) as indicated on some pesticide labeling will be informed by the USFWS that the program is deferred."

"Finally, PR Notices 87-4 and 87-5 directed registrants of affected products to respond to EPA by sending EPA a certification which indicated that after a certain date, products would not be released for shipment unless the product had revised labeling which complied with PR Notices 87-4 and 87-5, as appropriate. This Notice also serves to eliminate the direction that registrants provide such a certification to EPA. Because that direction is eliminated, certifications already submitted to EPA in response to PR Notices 87-4 and 87-5 are not valid. If future PR Notices require the submission of a certification of compliance, a new certification must be submitted."

The Notice also said "changes may result in limitations in fewer locations than currently indicated or limitations less severe than prohibition of use within a species' range....Given the level of state and public participation being sought by the Federal Government, and the possibility of resultant changes to the program, it is unlikely that a program will be ready to implement in September, 1988." EPA had previously indicated that it would not attempt reimplementation until at least February, 1989.

For additional information on USDA Forest Service compliance with the EPA Endangered Species Labeling Program

CONTACT: SHELLY WITT
FPM/WL&F

FTS: 235-8209
DG: S.WITT:W01C

NORTHEASTERN FOREST INSECT WORK CONFERENCE

On March 2 and 3 the Northeast Forest Insect Work Conference will hold its 21st annual meeting in Albany, New York. Featured speakers during the opening sessions will be Dr. Harvey Alexander, College of St. Rose, Albany, New York, and Dr. Mark McClure of the Connecticut Agricultural Experiment Station. These academicians will speak on "Management of Pine Barrens" and "The Hemlock Woolly Adelgid: A Dangerous Introduced Pest," respectively.

Concurrent workshops this year will focus on "Site Dynamics," "Expert Systems," "Potential Strategies for Pest Management," and "Forest Decline: What is the Role of Insects?"

Plenary sessions will be held on "Managing Public Pest Problems," "Gypsy Moth IPM," "Dutch Elm Disease," "Lyme Disease," and "An Environmentalist's Perspective." For additional information on this year's conference

CONTACT: GERRY LANIER

(315) 470-6755

HANDBOOK ON THE PREVENTION AND CONTROL OF WILDLIFE DAMAGE

The University of Nebraska recently published a handbook on the prevention and control of wildlife damage. This comprehensive reference text will prove invaluable to anyone who is requested to provide information about North American wildlife. Detailed information is presented on the major animal species found on the continent including biology, ecology, damage identification, applicable Federal and State regulations affecting the animals, and control procedures. The text is indexed by group (i.e., carnivores, birds, rodents etc.) and is formatted as a three-ring binder which allows for the addition of newly published species accounts and the updating of existing material. Sections on toxicants and suppliers of equipment, including traps, baits, etc. are included as appendices. Cost of the handbook is \$22.00.

CONTACT: UNIVERSITY OF NEBRASKA
WILDLIFE STAFF

(402) 472-2188

UPCOMING BIOTECHNOLOGY CONFERENCES

The U.S. Department of Agriculture is sponsoring four three-day meetings on biotechnology in the near future. The conferences will address uses of biotechnology in production, processing and preservation of food; new approaches to crop production, quality and protection; and animal breeding and health care; and evaluation of environmental, ethical and economical impacts. The meetings are scheduled as follows: Feb. 22-24, Raleigh, NC; March 28-30, Reno, NV; April 18-20, New Brunswick, NJ; and May 16-18, Minneapolis, MN.

In addition, an International Meeting of the Association of Biotechnology Companies will meet March 27-30 in Washington, DC. For followup information on these conferences

CONTACT: A. USDA OFFICE OF PUBLIC LIAISON
B. JEAN DOHERTY MILLS

241 E ADMINISTRATION BLG
(202) 842-2229

CHITIN: AN ALTERNATIVE TO SYNTHETIC NEMATICIDES?

The properties of chitin, a versatile natural polysaccharide found in crustacean and some insect exoskeletons, are rapidly transforming a waste material into a lucrative product with what could be phenomenal growth potential. Market development started in the 1970's when EPA ordered seafood packers to stop dumping shrimp and crab shells back into the sea: subsequent research, funded by government grants, focused on developing applications for the product. Biotechnology companies have since come up with inexpensive processes which should enable commercialization of chitin byproducts.

Feasible commercial applications for the protein, the only positively charged natural polymer in existence, first surfaced in water treatment about 10 years ago in Japan. Now chitin's use is being considered in applications ranging from artificial skin, surgical sutures, dialysis tubing, and contact lenses to anti-fungal agents.

Igene Biotechnology Inc., a Columbia, Maryland biotech firm, revealed that "ClandoSan," its patented chitin-based product, will provide farmers with a safe inexpensive nematicide capable of replacing toxic synthetic products now banned by EPA, including ethylene dibromide, dibromochloropropane, and dithiocarbamate.

When placed in soil, "ClandoSan" supposedly promotes the buildup of fungi and actinomycetes: these microorganisms produce chitinase enzyme, which, in turn, destroy nematode eggs.

For followup information

CONTACT: IGENE BIOTECHNOLOGY, Inc. (301)997-2599

A "RAY-GUN" INSECTICIDE

A high-tech pesticide triggered by light kills insects within seconds, according to researchers who say the "ray-gun" insecticide, developed with Reagan funds, is safe and biodegradable.

Unlike conventional chemical products it should be nearly impossible for insects to develop natural resistance to the new insecticide. Commercial development of the insecticide which combines an amino acid known as ALA with a chemical modulator, causing a lethal reaction that is accelerated by sunlight is possible. However, it could take up to five years for products to reach the market.

For more information

CONTACT: DR. CONSTANTIN REBEIZ
UNIVERSITY OF ILLINOIS

DEPARTMENT OF PLANT PHYSIOLOGY
(217) 333-1968

FIFRA AND THE 100th CONGRESS

Committees in the House will play a key role in determining whether the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, reform legislations will be approved by Congress this year. House Agriculture Chairman Rep. E. (Kika) de la Garza (D-Tx) is the "key player" in moving FIFRA out of committee and onto the House floor. But some Capitol Hill sources say "increased pressure" from industry has swayed de la Garza, prompting him to stall on FIFRA. However, impetus to move again, says one environmentalist, may grow out of an interest by Rep. John Dingell (D-Mi), House Energy and Commerce Committee Chairman, in introducing FIFRA-related legislation, including a bill on monitoring and enforcement. If Dingell introduces legislation relating to FIFRA, then questions of committee jurisdiction may complicate the picture and move FIFRA activities out of the Agriculture Committee.

While the House Bill, H.R. 2463, introduced by de la Garza, lies buried in committee with no talk of markup any time soon, Senate Agriculture Committee sources say the Senate bill, S. 1516 introduced by Sen. Patrick Leahy (D-Vt) may be marked up soon. Congressional sources predict the Senate version of FIFRA has a good chance of reaching the Senate floor by summer. This is a short year because of elections, of course, and Congress isn't going to have time to refight a lot of battles, so the majority of work will be done in committees and floor passage should come off with few snags.

H.R. 2463, introduced May 20, 1987, is a reintroduction of last year's FIFRA, minus provisions on patent term restoration, pesticide tolerance, and farmer liability. The bill would exempt agricultural producers from cleanup liability under all Federal environmental statutes and establish a nine-year reregistration schedule with conditional and minor use registration loopholes, drift and indoor exposure controls, and full labeling and testing of inert pesticide ingredients. In addition, the bill would require EPA to notify Congress of all indemnification obligations and levy fees against pesticide producers sufficient to pay half of the cost of the nine-year reregistration program.

S. 1516, introduced July 21, 1987, "clarifies" EPA procedures for initiating and conducting Special Review of pesticides and streamlines the legal proceedings for the cancellation of pesticide registrations. The bill contains provisions on applicator certification and training, false or invalid data, exports, inert ingredients, health and safety, and patent term restoration. The measure also focuses on reregistration of approximately 600 pesticide active ingredients approved before November 1, 1984, and sets new limits on indemnification for cancelled pesticides--requiring EPA to repay manufacturers only if Congress approves specific appropriations for indemnification in advance. According to sources, the bill is similar to FIFRA legislation (H.R. 2428) that passed the House last year, minus provisions for groundwater protection and farmer liability.

For additional information

CONTACT: MAX OLLIEU (FPM) DG: M.OLLIEU:W01B
BARBARA WEBER (LA) DG: B.WEBER:W01C

DALAPON UPDATE

Dow Chemical Company has advised the USDA Forest Service that it is voluntarily cancelling the registration of all of their products containing dalapon on or about March 31, 1988. The only exception will be that Dow will retain a registration for the use of dalapon to control grass in sugarcane.

EPA requested that Dow do a number of new studies to fill dalapon reregistration data gaps. Dow decided the sales of dalapon products do not support the cost of the additional research studies, thus the voluntary cancellation. For more information

CONTACT: LARRY GROSS

FTS: 235-8209

CENTERS FOR DISEASE CONTROL OFFERS NEPA DOCUMENT REVIEWS

The Special Programs Group, Center for Environmental Health and Injury Control, Centers for Disease Control (CDC) is the responsible office for coordinating review and comment on draft National Environmental Policy Act (NEPA) related documents referred to the U.S. Public Health Service by other Federal Agencies. They have asked that we notify personnel within our agency who may be preparing NEPA-related documents of their existence and their availability to provide review from a public health and safety perspective. Therefore you are asked to include CDC on your mailing lists so they may receive the earliest possible notification of forthcoming pesticide-use projects where human health may be a point of consideration. They are willing to provide comments on: air quality, water quality, non-hazardous solid waste, noise, radiation, hazardous waste, wetlands and floodplains, occupational health and safety, and land use and housing issues. To request review of NEPA documents

CONTACT: CENTERS FOR DISEASE CONTROL
ENVIRONMENTAL HEALTH AND INJURY CONTROL
SPECIAL PROGRAMS GROUP
1600 CLIFTON ROAD C-27 MS F-29
ATLANTA, GEORGIA, 30333

IPM IN AGROFORESTRY

The latest issue of the **Integrated Pest Management (IPM) Practitioner** (Vol. IX, No. 11-12, Nov./Dec. 1987) features an update on "Agroforestry and IPM." Authors William Olkowski and Anghe Zhang believe that "IPM within an agroforestry framework can make significant contributions toward reducing pesticide use," especially in third world countries. But, they believe "there is a need for a conceptual framework upon which directions for agroforestry/IPM research and application can rest." Clearly, IPM needs to become more a part of our literature and our practice. For more information on agroforestry IPM

CONTACT: BILL OLKOWSKI

(415) 524-2567

PESTICIDES A VICTIM OF GUILT BY ASSOCIATION?

Researchers are finding that despite continued increases of pesticide use over the last 15 years, 23 of the 33 major life-threatening birth defects have stabilized or decreased. The rise of the other 10 can be attributed to heightened awareness and improved diagnostic techniques, especially for the four cardiovascular defects. However, only the increases are reported by news media, sometimes resulting in removing products from the market.

Statistically, one in every 100 births will result in a major birth defect, three in 100 a minor one, no matter what. Statistics also show that 25 percent of birth defects are genetic or chromosomal in nature, 10 percent environmental (not necessarily related to pesticide use) and 65 percent from unknown reasons. It is often these unknowns that become a "result of pesticides."

While cancer is on the rise, it is not a result of pesticides, but of an aging population. Researchers have proven that the aging of cells causes cancer. In addition, naturally occurring, plant-derived toxins occur in the diet in concentrations sometimes as much as 10,000 times that of man-made pesticides.

This has also been reported by persons like Dr. Bruce Ames, the eminent Head of the Department of Biochemistry at the University of California. Dr. Ames, for example, said in a recent **Regulatory Toxicology and Pharmacology Journal** (Vol. 7, 379-383:1987) that there are "Six Common Errors Relating to Environmental Pollution." They are: 1) Cancer Rates are Soaring; 2) Man-made Chemicals are Present in Significant Amounts; 3) Storks Bring Babies/ Pollution Causes Cancer and Birth Defects; 4) Regulate Without Understanding How Carcinogens Work; 5) Only a Small Number of Chemicals are Carcinogens and Reproductive Toxins, and We can Eliminate Them; 6) Technology is Doing Us In. For additional information on these subjects

CONTACT: DR. STANLEY SHUMAN
DIRECTOR OF AGROMEDICINE
CLEMSON UNIVERSITY

(803) 792-2411

DR. BRUCE AMES

(415) 642-5165

DEPARTMENT OF BIOCHEMISTRY
UNIVERSITY OF CALIFORNIA

NURSERY EIS IS PLANNED

The Forest Service has announced (FR Vol. 53:11 pg.1391) its decision to prepare an environmental impact statement (EIS) for the management of three nurseries on the tree improvement center in the Pacific Northwest Region. In preparing the EIS, the Forest Service will identify and consider a range of alternatives from no action to the use of biological, chemical, mechanical and manual methods of managing unwanted vegetation, animals, insects, and diseases in the nursery. A draft of the EIS is expected for public review about July, 1988. For more information

CONTACT: GEORGE MATEJKO (TM) (503) 221-3066

The End

20
O 88-01

MESSAGE SCAN

TO PEST NEWS

From: Luella Harris:W01B
Postmark: Jan 15,88 4:04 PM
Status: Certified
Subject: PEST NEWS

Acting for: Dennis R. Hamel

Comments:

HAPPY NEW YEAR. THIS IS THE FIRST ISSUE OF SHORT SUBJECTS AND TIMELY TIPS FOR 1988.

-----X-----

SHORT SUBJECTS
AND TIMELY TIPS
FOR PESTICIDE USERS

January 15, 1988

EPA DELAYS IMPLEMENTATION OF ENDANGERED SPECIES LABELING PROJECT

On Thursday, January 7, the U.S. Environmental Protection Agency (EPA) announced that it is deferring implementation of its Endangered Species Pesticide Label Improvement Program until the 1989 growing season. This delay is for all clusters--forestry, range/pasture-, and croplands, and mosquito larvicides. EPA feels that through consultation with USDA, the Fish and Wildlife Service, and State pest control officials there has been "a consistent assessment that basic elements of the program are not sufficiently developed to commence a formal field implementation for this program in 1988." Prior to this announcement Congress enjoined EPA (in an amendment to the appropriations bill) that required EPA to work with the States and not seek to enforce the Labeling Program before September 15, 1988. EPA's delay will give everyone more time to review and comment on the program. For further information

CONTACT: MAX OLLIEU
SHELLY WITTFTS: 235-8209
DG: S.WITT:W01BSEEDBED ORCHARDS----OOOPS!

Related to the EPA Endangered Species Pesticide Label Improvement Program mentioned above is PR Notice 87-4 that was sent out by EPA May 1, 1987 to Manufacturers, Formulators, and Registrants of Pesticides Used in Forestry. The notice, although it will not go into effect because of the changes outlined above, caused considerable confusion by saying that products used in "seedbed orchard" sites would be exempt from the new labeling requirements. Because Forest Service personnel were unsure if EPA meant seedbeds (as in tree nurseries) or seed orchards (as in superior tree plantations) we requested clarification. Inquiries were made to Ms. Arty Williams concerning the phrase and she agreed that a mistake had been made in using the term "seedbed orchard." Ms. Williams indicated that EPA will send a letter further defining the exemptions intended. We believe EPA meant to exempt seed orchards; however, we will await their letter for confirmation. In the meantime, if you have questions

CONTACT: SHELLY WITT

FTS: 235-8209

PESTICIDE VIDEOTAPE ON ITS WAY

As announced in Issue No. 10 of "Short Subjects..." (July 17, 1987), the Forest Service recently cooperated with Oregon State University (OSU) in the production of a videotape on the "Behavior of Pesticides in the Forest Environment." The 29-minute videotape is the first of a 3-part series. Later installments will discuss toxicology and risk analysis. An introductory tape that outlines the 3-part series was also prepared.

Based on Region, Station, and Area responses to the announcement of the series the WO distributed the requested number of copies of the videotape (in 3/4- and 1/2-inch format) plus an initial supply of "Instructor's Guides" and Viewer Summaries," on January 14, 1988.

Additional copies of any of these items will be available through the OSU Forestry Media Center at a cost of \$130 per 3/4- and 1/2-inch videotape; \$1.00 per "Instructor's Guide;" and \$0.20 per copy of each "Viewer's Summary."

It is hoped that pesticide users will find this videotape and its supplemental materials useful in future training efforts. If you have questions about this or future tapes in the series

CONTACT: DENNIS HAMEL (WO FPM)
ZDENKA HORAKOVA (WO FPM)
JEFF HINO (OSU)

DG: D.HAMEL:W01B
FTS: 235-8209
(503) 754-4702

BARK BEETLE SEMIOCHEMICAL WORKSHOP

On January 26-28 representatives from the USDA Forest Service, private industry (Canadian and U.S.), the States, and research organizations will gather in Lakewood, Colorado to analyze current data and initiate the development of a unified plan for the use of semiochemicals in the management of western bark beetles. Representatives from the Western Regions will discuss their work to date and identify interest in future uses of both aggregative and antiaggregative semiochemicals such as pheromones. In addition, researchers from the Pacific Northwest, Pacific Southwest, Intermountain, as well as several Canadian Research organizations will update participants on data currently available. Representatives from Pherotech, Incorporated (Vancouver, British Columbia) and Consep, Incorporated (Bend, Oregon) will present data on products available through their respective firms. Washington Office representatives will provide a perspective on policy and U.S. Environmental Protection Agency (EPA) guidelines on the use of semiochemicals. A major purpose of the workshop will be to update personnel and then develop a detailed westwide plan for use of bark beetle pheromones in the forest.

Although the session is limited to specific participants you will be receiving additional updates and if you need prior an update

CONTACT: ROBERT AVERILL
LOCAL ARRANGEMENTS

FTS: 776-9556
DG: TFPCFM:R02A

MATERIAL SAFETY DATA SHEETS

At the recent National Pesticide-Use Management and Coordination Workshop in McLean, Virginia, pesticide coordinators were updated on the National Pesticide Information Retrieval System (NPIRS). An important item discussed was that in order to access MSDS on NPIRS, a licensing agreement must be signed and returned to Purdue University. Copies of the licensing agreement were distributed to the Regions, Stations, and Area on January 11. Personnel not receiving a copy but desirous of obtaining MSDS-type information from NPIRS should

CONTACT: DENNIS R. HAMEL

FTS:235-8209

CHEMICAL INFORMATION SYSTEMS, INC.

Another firm offering to provide information on MSDS is Chemical Information Systems (CIS), INC. in Baltimore, Maryland. This firm was originally developed by Fein-Marquart Associates under the auspices of the National Institutes of Health and the Environmental Protection Agency. Chemical Information Systems has an online computer data base; however, their annual computer fee is \$300 per year with an \$85 per hour online service fee. Although about 10 MSDSs could be generated per hour the fee for the CIS system is much higher than NPIRS. In addition, only a limited number of chemicals are online; however, if you wish additional information

CONTACT: Chemical Information Systems (800) CIS-USER
 7215 York Road (301) 321-8440
 Baltimore, MD ZIP: 21212

CHEMICAL SOCIETY PRODUCES PESTICIDE RELATED INFORMATION BOOKLETS

The American Chemical Society (ACS) announced last week that they have available a series of booklets on key environmental issues. "Information pamphlets," were developed by ACS to increase public understanding of the role chemistry plays in policy decisionmaking. They include brochures entitled: Biotechnology; Pesticides; Groundwater; Hazardous Waste Management, and Chemical Risk; and Acid Rain. They also announced the availability of three, more technically-oriented publications on "The OSHA Hazard Communication Standard," "RCRA and Laboratories," and "Laboratory Chemical Management for Waste Reduction."

ACS also noted the availability of two other publications: "Principles of Environmental Analysis" and "Issues in Peer Review of the Scientific Basis for Regulatory Decisions." If you are interested in these publications and want copies,

CONTACT: American Chemical Society

(202) 872-8725

*Margolin Charles
 202-452-8017*

*2118
 872-6034
 872
 872-8063
 Karen Wiley*

ARTIFICIAL INTELLIGENCE WORKSHOP PLANNED

A workshop on the use of artificial intelligence systems related to natural resource management will be held at the Aerial Fire Depot, Missoula, Montana, April 20-21. The workshop will emphasize computer-assisted decisionmaking aid and expert systems. Pest management personnel and pesticide users are invited to participate in this workshop. If you have a model (e.g., AGDISP, FSCBG II, Southern Pine Beetle EXSYS) or are working on the development of one (e.g., gypsy moth expert system for aerial application of insecticides) you are invited to participate and/or present a paper. For more information

CONTACT: DON LATHAM (MISSOULA) FTS: 584-4848

SENATE CONSIDERATION OF BIOTECH ISSUES PROMISED

The Chairman of the Senate Agriculture, Nutrition, and Forestry Committee, Senator Leahy (D-Vt), has proposed a full-scale investigation of issues surrounding biotechnology. Emphasizing the positive aspects of biotechnology to American agriculture, the Senator pinpointed regulation as one of eight key issues. For example he recently stated:

"We must design a regulatory system that differentiates risk biotechnologies requiring extensive review from those needing a brief evaluation.... It does not make sense to treat all biotechnology products in the same way. And we may want to consider establishing a priority review schedule so that products which meet critical environmental needs receive regulatory attention first."

Senator Leahy's position as a committee gives his words the weight of "legislative history" if and when Congress enacts biotech legislation. He embraces eight basic principles related to biotechnology:

- (1) Agricultural application of biotechnology must be a national priority.
- (2) America must support the world's premier research program.
- (3) We must support small biotech firms that pioneer new discoveries.
- (4) Biotechnology must be used to protect and enhance our environment.
- (5) Patenting issues must be resolved.
- (6) We must be committed to open exchange of scientific information.
- (7) The biotechnology regulatory structure must be reworked. It must provide safety for the public and fairness, and timeliness to all.
- (8) We must establish international mechanisms that prevent runaway research, protect biotech innovators, and aid developing nations."

Lessening "chemical dependency is also a biotech advantage noted by Senator Leahy. For further information about biotechnology and/or legislation

CONTACT: STAN KRUGMAN (TMR) FTS: 235-8200
BARBARA WEBER (LA) FTS: 382-8225

AGDISP DEMONSTRATED

On January 12 and 13, Bob Ekblad of the Missoula Technology and Development Center participated in a series of Washington Office (WO) seminars, briefings, and trial runs using AGDISP, a computer model that predicts the dispersion and ground deposition of materials released from aerial nozzle systems. This model, and the model called FSCBG II, which was also discussed, predict nearfield aircraft effects and the results of weather, terrain, wingtip vortices, and other aircraft characteristics on spray deposition. Also input to the model are crosswind speeds, droplet evaporation characteristics, and plant canopy penetration effects. Outputs from AGDISP include single swath ground deposition patterns, canopy deposition, and site specific deposition patterns.

While in the WO, Bob also compared outputs from AGDISP with information collected from recent aircraft spray trials in Mission, Texas and found a high degree of correlation.

In time it is expected that expensive spray trials will no longer be required and outputs from computer models like AGDISP and FSCBG will become extremely useful in: estimating swath widths, spray displacement (drift), comparing aircraft, measuring the effects of terrain, comparing nozzle/boom placement, and measuring the effects of wind and weather on pesticide behavior.

Individualized training of personnel involved in seed orchard, western spruce budworm, and gypsy moth management are planned in the near future. Less urgent training needs will be handled by planning workshops designed to transfer this technology to Federal, State, and private users of aerial spray systems using computer systems. Persons interested in learning more about AGDISP should

CONTACT: BOB EKBLAD
JACK BARRY

DG: R.EKBLAD:R01A
DG: J.BARRY:SCS06

SUBDIVISION M, PESTICIDE ASSESSMENT GUIDELINES

On January 22 there will be a 1-day meeting of a FIFRA Scientific Advisory Panel Subpanel to review EPA's revisions to testing guidelines for microbial pest control agents (MPCAs). The meeting will be held in Arlington, Virginia and the Forest Service will represent USDA. The agency has a particular interest because of our status as the registrant of two MPCAs--**GYPCHEK** and **TM Biocontrol-1**, nucleopolyhedrosis viruses registered for control of the gypsy moth and the Douglas-fir tussock moth respectively.

Subdivision M also contains guidelines for testing biochemical pesticides (e.g., pheromones and insect and plant growth regulators) but these will not be included in the discussions at the January 22 meeting. The unique characteristics of MPCAs require that they be tested differently from chemical pesticides, therefore, there is a need to update portions of the current guidelines. Copies of the proposed guidelines are available for review and potential input:

CONTACT: EPA OFFICE OF PESTICIDE PROGRAMS
DENNIS R. HAMEL (703) 557-2805
FTS: 235-8209

6

PROPOSED FARMWORKER PROTECTION RULE TO BE CIRCULATED FOR COMMENT

The EPA's proposed farmworker protection rule is currently being circulated for comment among State lead agencies, members of the negotiated rulemaking group which worked on it, and others. The proposed rule as drafted will impose extensive and intensive training, warning, medical monitoring, and labeling requirements on a wide range of pesticide users.

The proposal will soon be published in the Federal Register with a 90-day comment period will follow review by USDA, the FIFRA Scientific Advisory Panel and key congressional committees. The proposed rule will cover workers in pesticide-treated fields, forests, nurseries, and greenhouses. States may establish more restrictive standards than the minimum Federal standards; however, among the standards expected to be proposed are:

Scope--Owners, leasees, and operators of nurseries, forest, and greenhouses and their contractors and workers will be subject to the rule. The coverage of forest workers includes commercial forests but excludes "trees and vegetation used solely for parks, recreation, or wilderness preservation."

Training--Handlers (mixers, loaders, applicators, flaggers, disposers), must be trained by certified applicators.

Notification--The proposed guidelines take a four-tiered approach, including oral warnings, treated area posting, central notice board, and information on request. Oral warnings must be given to workers about all pesticide applications to be made and areas under reentry restrictions. Central notification must contain emergency medical information and a training placard. Treated area posting will be with specific signs indicating reentry intervals greater than 48 hours. Protective clothing and special equipment are specified for early reentry workers and handlers based on the toxicity of the pesticide, route of potential exposure, and duties to be performed.

Reentry--Reentry intervals will be based on active ingredient toxicity. For all pesticides entering Special Review, reentry intervals will be continuously re-evaluated.

Decontamination--Potable water must be available for removal of pesticides during emergencies and for removing residues from hands and face before eating, drinking, toileting, and/or using tobacco.

Cholinesterase Monitoring--Detection of excessive blood cholinesterase inhibition will be required for commercial pesticide handlers who are exposed to Toxicity 1 and 2 organophosphate pesticides.

Emergency Duties--Workers must be provided the name, address, and telephone number of the nearest emergency medical facility.

The Forest Service has been asked to coordinate the USDA response to EPA's proposed farmworkers protection rule. If you have questions about the proposal or the USDA response

BUDWORM SPRAY PROJECT MAY BE NECESSARY

The Pacific Northwest Region has announced that more than 900,000 acres of forestland in Oregon and Washington may be sprayed this spring and early summer to control western spruce budworms. Regional Forester Jim Torrence has announced that an environmental analysis and assessment recently completed shows that 4.7 million acres are infested by the budworm. Of this, 954,000 acres have been identified as high priority for potential treatment with the biological insecticide Bacillus thuringiensis (Bt) in 1988. Leading the priority for treatment are some 400,000 acres of the Mt. Hood National Forest's eastern portions in Hood River, Wasco, and Clackamas counties.

Also identified as high priority for treatment are 110,000 acres in the Simcoe area of south-central Washington in Klickitat and Kittitas counties; 200,000 acres of the Umatilla National Forest in Union and Umatilla counties; and 200,000 acres of the Warm Springs Indian Reservation and adjacent Mt. Hood National Forest in Jefferson county.

The final decision on areas to be treated will be based on biological evaluations this spring to determine budworm population levels. Other factors to be considered are availability of aerial application contractors, and the degree of participation by private landowners.

Cost of the project could reach \$15.5 million, with several hundred people from the Forest Service, State agencies, Indian reservations, and privately owned firms to be involved. Spraying could begin by the last week of May and should be completed by July 4.

Anyone interested in working on this project, either related to pesticide application, or pre- and posttreatment monitoring should

CONTACT: REGION 6 (FPM) FTS: 423-2727

NATIONAL AGRICULTURAL LIBRARY



1022876109